IMPERIAL

DEPARTMENT OF AGRICULTURE

FOR THE WEST INDIES.

REPORT

ON THE

AGRICULTURAL DEPARTMENT,

ST. LUCIA,

1918-19.

BARBADOS.

ISSUED BY THE IMPERIAL COMMISSIONER OF AGRICULTURE

FOR THE WEST INDIES.

1920.

[Price Ninepence.]

REPORTS

ON THE

BOTANIC STATION, ECONOMIC PLOTS, AND AGRICULTURAL EDUCATION, ST. LUCIA.

Annual Reports on Certain Economic Experiments conducted in connexion with the Botanic Station, 1900-2.

Annual Reports on the Botanic Station for the years 1901 and 1902.

Annual Reports on the Botanic Station, Economic Experiments, and Agricultural Education for the years 1902-3 to 1917-19.

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LETTER OF TRANSMITTAL.

Commissioner of Agriculture—To His Honour the Administrator, St. Lucia.

No. Lu. 285. Barbados,

January 30, 1920.

Sir,

I have the honour to forward, herewith, the Report on the Agricultural Department, St. Lucia, for the year ended March 31, 1919.

2. In spite of continued difficulties caused by the deficient supply obtainable of artificial manure, it is satisfactory to note that the sugar planters of St. Lucia have been able to maintain the industry profitably during the year, by increased attention to tillage.

3. The cultivation of cacao appears to be receiving considerable attention, and better methods of cultivation now being employed will doubtless produce good results. The position of the cacao industry of the colony is improving.

4. Further progress is reported in the lime industry, both as regards the extention of acreage under cultivation, and the quantity of fruit produced and exported.

5. With regard to minor industries, it is again to be noted that the production of honey and the distillation of bay oil show prospects of development, and a large increase in the export of kola and nutmegs is worthy of remark.

6. It is satisfactory to note, with regard to agricultural education in Primary Schools, that the examiner's report appears to show that the standard of work is improving. The scheme approved of by the Government for the training of two agricultural cadets is a step evidently in the right direction.

7. The flourishing condition of the Agricultural and Credit Societies among the peasant proprietors is an evidence of their utility to the community.

8. The land settlement and village experiment schemes are also evidently continuing to demonstrate by their success the sound lines on which they were planned.

9. The production of locally grown foodstuffs seems to have considerably increased, due doubtless, in a large measure, to the energetic efforts made by the Agricultural Department in disseminating knowledge on this essential subject, and to the operation of the Government Corn Granary and Provision Depôt in Castries.

10. In conclusion, the report is an interesting record of good work by the officers of the Agricultural Department in many directions, and of agricu tural progress in the island.

I have, etc.,

(Sgd.) FRANCIS WATTS,

Commissioner of Agriculture
for the West Indies.

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B. J. Paul	Junior Agricultural Assistant.
W. W. Arno	Clerk to Agricultural Superintendent.
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F. d'Auvergne	Assistant Agricultural Instructor.

REPORT ON THE AGRICULTURAL DEPARTMENT, ST. LUCIA,

For the Year ended March 31, 1919.

Work in the Gardens and Observations on Plants.

The Gardens have been maintained in fair condition throughout the year.

Considerable progress has been made in reforming and building up the driving roads and walks. These roads had received little attention during the past ten years, with the result that their surfaces had become very rough and uneven, necessitating extensive repairs. Coral mud dredged from the harbour was used for this purpose. It forms a good smooth hard surface and wears well.

Additions were made to the area under lawn grass, by removing a number of old mango and sapodilla trees which had become too large for the positions they occupied.

A number of new flower beds were laid out near the centre palm circle, and planted with ornamental shrubs and flowers. A bed of *Turnera elegans* made a fine display throughout the year. The rockeries were much improved by the planting of a small creeping Coleus received from Trinidad.

Many of the palms planted about twenty years ago are dying out through their roots having reached the sea-water level. Young plants of each species are being set out in the border running along the base of the Church cliff, and in a few years they should form an improving foreground to the Church built on the summit of the cliff.

The glass seed-house was rebuilt and reglazed during the year.

A Fête in aid of the British Red Cross Society was held in the Gardens on November 6 and 7. Thanks to the care taken by the Committee, and the orderly conduct of the general public, only temporary damage was done to the lawns and plant collection.

The self-acting koker, mentioned in the last Annual Report, and erected by the Public Works Department from drawings received from Demerara through the Imperial Commissioner of Agriculture, has not proved successful up to the present. Considerable difficulty is being experienced in preventing the doors being jammed by debris. Experiments are still being made, and it is hoped that successful results will be obtained shortly.

Reunion Agricultural and Botanic Station.

PLANT AND SEED IMPORTATION.

The following interesting economic and decorative plants have been introduced during the year :—

Ilex paraguayensis, Fatsia papyrifera, Anona papyrifera ;
Grafted mangoes : Ceylon No. XI, Gouverneur, Bombay No. 2, Canal, Colonial Bank, Dora Barbadensis, Peter's, Imperial ;
Aleurites trisperma, Phoenix dactylifera (var Amhat and Hayana). *Morus alba Olea europea, Nelumbi um speciosium* ;
Hybrid Hibiscus from Trinidad :—Nos. 22, 64, 13, 132, 118, 56, 53, 8, 63, 130, 98, 97, 95, 133, 126, 113, 134, 119, 61, 122, 139, 21, 127, 414, 68, 116, 129, 135, 107, 120, 117, 124, 141, 131
Coffea excelsa ; Guayaquil Cacao, var. 'Arriba' ; Tobacco seed—'Jamaica Havana' and 'Jamaica Common' ; *Momordica cochinchinensis, Artocarpus rigida, Nephelium lappaceum*, var. Lebak boeloes, *Clitoria cajanifolia, Tephrosia candida, T. hookeriana, Crotalaria valetoni, C. usaramoensis, Indigofera sufruiticosa, Cassia patellaria, C. pumula.*

Work in the Nurseries and Distribution of Plants

DISTRIBUTION OF PLANTS.

The nurseries were kept well stocked with economic and ornamental plants throughout the year.

Owing to favourable climatic conditions no difficulty was experienced in maintaining a full supply of lime seedlings throughout the year.

The following table shows the plants, cuttings, and seeds distributed during the last three years :—

Plants.	Year 1916-17.	Year 1917-18.	Year 1918-19.
Limes	25,083	46,625	19,684
Cacao	...	422	600
Oranges (budded)	153	152	150
Mangoes (grafted)	11	101	23
Bananas	150	20	60
Grape Fruit	...	21	6
Coffea robusta	...	125	365
Economic and decorative cuttings ...	462	713	6
Cassava	14,250	27,850	82,000
Sweet potatoes	11,000	193,500	44,000
Sugar-cane	10,000	23,000	5,000
Gliricidia	800	...	169
Economic and decorative plants	...	183	1,675
Total plants	61,909	202,712	153,738
Seeds.			
Ground nuts	200 lb.	...	...
Maize	448 ,,	1,200 lb.	420 lb.
Peas (various)	400 ,,	650 ,,	350 ,,
Horse beans	500 ,,	...	...
Rubber	...	1¼ ,,	...
Economic and decorative	...	216 pkts	8 pkts.
Vegetable seeds	349 pkts.	1,084 ,,	760 ,,

NOTES ON ECONOMIC PLANTS.

PYENOSTACHYS DAWEI. This is a handsome blue-flowered labiate discovered in Uganda in 1898, and introduced into cultivation in 1905 by Dawe, who sent it to Kew. This plant shows considerable variation under different treatment. If seeds are sown towards the end of September the plants will reach a height of from 2 to 2½ feet in December, when they will produce a profusion of blue flowers. Seeds sown in January, and planted out in poor soil in a border in March, had grown to a height of 8 to 9½ feet by November, and then commenced flowering. The foliage was weak, although the plants were much branched. From plants nine months old, cuttings were made in September and planted out in prepared beds. These made strong bushy plants 2 feet in height, and flowered throughout November, December and January. This treatment is recommended when budding plants are required, but for borders, young plants should be set out in March, and left to develop naturally, when they will reach a height of from 8 to 9 feet before flowering.

HYBRID HIBISCUS. A few hybrid hibiscus have been raised from seed by this Department, and some forty odd new ones were received from Trinidad. The collection is being carefully worked up, and those possessing the most striking flowers will be used for decorative work in the Castries Gardens, and a supply raised for general distribution.

Caffea excelsa. Through the kind co-operation of the Director of Agriculture, Trinidad, a further supply of plants of *Caffea excelsa* was obtained from that Department. This has enabled a permanent plot of this variety of coffee to be established at Réunion. It is hoped that it will give the same excellent results under St. Lucia conditions as it does in Trinidad.

GUAYAQUIL CACAO. The following extracts taken from a letter addressed to the Imperial Commissioner of Agriculture by the Director of the Imperial Institute, London, deal with the question of the possibility of producing within the British Empire a cacao possessing the characters of the Guayaquil beans. For now that reconstruction is to be the watchword of the Empire, we in St. Lucia should seize every opportunity of bringing our methods up-to-date With successful planting it is not a question of growing and producing what we like, but what the market demands, and this should be done as far as our resources and climatic conditions will permit. This is a matter of vital interest to us as an agricultural community, and the information contained in the following extracts will no doubt be read with interest by our leading cacao planters :-

'The Imperial Institute has received an enquiry from one of the principal firms of chocolate manufacturers in the United Kingdom as to whether it would not be possible to produce within the British Empire a cacao possessing the characters of the Guayaquil beans.

The manufacturers state that Guayaquil cacao possesses special characteristics of strength and aroma, which render it of greatest value for the preparation of cocoa and chocolate, and that in consequence it has always commanded a higher price than most other cacaos. They consider it unfortunate that no supplies of this type of cacao can be obtained from any British Colony, and they suggest that it would be worth while for the Departments of Agriculture in the various cacao-growing colonies to investigate the possibility of producing such cacao, if this has not already been done. The extra value which the Guayaquil cacao commands would appear to be a sufficient inducement to growers to undertake the production of this variety on a large scale if possible, and the manufacturers state that they are prepared to support any such efforts by continued orders for a definite quantity. The manufacturers do not consider that there is any danger of over-producing this type of cacao, with a consequent fall in price, as there is a very large demand for it also in Europe.

'It may be mentioned that the exports of cacao from Ecuador in the years 1911 to 1914 amounted annually to from 708,000 to 780,000 cwt.

'The quantities of Ecuador cacao imported into the United Kingdom during recent years, together with the quantities retained, are shown in the following table :—

Ecuador cacao.	1912 cwt.	1913 cwt.	1914 cwt.	1915 cwt.
Total imports into United Kingdom	82,323	79,671	203,803	215,406
Amount retained in the United Kingdom ...	65,966	62,506	136,165	141,853

Main Entrance to Agricultural Station, Réunion.

A row of *Casuarina equisetifolia* planted as a wind screen :
Agricultural Station, Réunion.

AVERAGE PRICES OF GUAYAQUIL (MACHALA) CACAO IN LONDON (1912-1918), per cwt.

Month.	1913.	1914.	1915.	1916.
	s. d.	s. d.	s. d.	s. d.
January	68 6	62 0	...	89 0
February	74 0	61 6	...	88 0
March	75 6	...	...	100 0
April	72 6	...	...	100 0
May	68 9	63 6	85 0	92 0
June	75 0	58 0	80 0	89 0
July	70 0	57 0	82 0	90 0
August	66 0	53 0	85 0	89 0
September	65 9	...	84 0	89 0
October	65 6	...	80 0	86 0
November	65 0	57 0	81 0	75 0
December	63 9	74 0	...	...

A small quantity of seeds of the 'Arriba' variety have been received from H. B. M. Consul at Guayaquil through the Imperial Commissioner of Agriculture, and from these it is hoped to raise a number of plants for trial.

PARAGUAY TEA. A batch of plants was raised from seeds of *Ilex paraguayensis* received from Egypt. This plant is known in South America as Matè or the Paraguay Tea plant. It is calculated that it is consumed in that country to the extent of 8,000,000 lb. annually.

The leaves are prepared by drying and roasting. Large branches are cut off the plants and placed on hurdles over a wood fire until sufficiently roasted; the branches are then placed on a hard floor and beaten with sticks; the dried leaves are then gathered and reduced to powder, made into packages, and are ready for use.

The infusion is said to have an agreeable, slightly aromatic odour, is rather bitter to the taste, and very refreshing and restorative to the human frame after enduring great fatigue. It acts in some degree as an aperient and diuretic, and, if taken in overdoses, it occasions disorders similar to those produced by strong liquors.

Seeds of *Nephelium lappaceum* were received from Kew through the Imperial Commissioner of Agriculture. This plant bears the Rambutan, a well-known and favourite fruit of the Malayan Archipelago. The fruit is of a bright-red colour, about 2 inches long. It contains a pleasant acidulous pulp, very refreshing in tropical countries.

NOTES ON PLOTS AT THE BOTANIC AND EXPERIMENT STATION, REUNION.

DOLICHOS HOSEI.

This cover crop continues to give excellent results with the minimum attention Numerous demands for seeds have been received from the neigbouring islands.

Experience shows that the most successful method of propagating the plant is to cut off a few rooting branches, and establish them in clay pots. Within a few weeks sufficient development has been made to allow of their being knocked out of the pots, wrapped in banana trash, and packed for transport.

Batches of plants are being raised in this way, and, as soon as ready, will be distributed to the various agricultural stations in the neighbouring islands, where they can be propagated for local distribution. Plants for export can only be supplied to planters through the officers of the local Agricultural Department of the island in which they reside.

Until quite recently very few seeds had been found, although diligent search had been frequently made. It appears that this plant produces but very few seeds when trailing over the surface of the soil, but if allowed to climb a foot or two upon the trunks of other plants, it seeds fairly freely.

Seeds have now been distributed to the following agricultural stations: Trinidad, British Guiana, Barbados, Grenada, Dominica, Montserrat, Guadeloupe, Jamaica, and Southern Nigeria.

UPLAND RICE.

A small supply of the white variety of Upland, or Hill rice was obtained from the Director of Agriculture, Trinidad, for trial at Rèunion.

This rice thrives well in hilly and undulating lands, and, although bearing heavier crops in good rich loams, will yield a fair crop in old sugar-cane soils.

The sowing was done in July after the land had become cooled and saturated with rains. The land was first forked and thoroughly cleared of all weeds. Small holes were made with a pointed stick, about ½-inch deep and about 18 inches apart, and four to six seeds were dropped into each hole. The land was kept free from weeds, and the vacancies were supplied by thinning out the seedlings to three in each hole.

The plants grew well, and in November had reached an average height of 14 to 18 inches. Considering the worn out condition of the soil, the yield of paddy was good, being at the rate of 372 lb. per acre. Hill rice will yield about half that of swamp rice. This trial proved the suitability of Hill rice to St. Lucia conditions, and it should in time become a useful additional crop for the peasants in the dry districts.

INDIAN CORN (MAIZE).

A supply of seed maize was obtained from St. Vincent, and trial plots sown at Reunion. Much damage was done by birds to the germinating corn, and also during the ripening stage. The plants grew well, producing an average of two well formed cobs to the plant. Many produced sixteen rows of corn to the cob. The young plants were periodically dusted with a mixture of starch and arsenate of lead, which kept the corn worm under control.

Average yields of 15,000 cobs, or 57·25 bushels of 56 lb. air-dried grain per acre were obtained.

GROUND NUTS.

A large plot of the Gambia variety of ground nut was grown for the purpose of raising seed for distribution. The variety is very prolific and well suited to our local conditions. The yield obtained was at the rate of 2,643 lb. of cured nuts per acre.

PERMANENT PLOTS OF ECONOMIC PLANTS.

Permanent ¼-acre plots have been established with oranges, grape fruit, Para rubber, spineless limes, ordinary limes, grafted mangoes, coco-nuts, cacao, coffee, Bay trees, and British Honduras logwood. From these permanent plots seeds and material for budding and grafting are obtained for raising plants for general distribution.

The grape fruit, oranges, and mangoes have done remarkably well, and good crops are now being produced annually.

CASSAVA, SWEET POTATOES, AND PIGEON PEAS.

All available land at Réunion has been kept constantly cropped with cassava sweet potatoes, and pigeon peas throughout the year, to assist in the general production of food crops.

Farine and Starch Factory : ~~Cinnamon~~ Camphor trees in foreground : Experiment Station, Réunion.

View in Garden : Experiment Station, Réunion.

Work connected with Insect and Fungus Pests and their Control.

Increased attention was given to the control of Love Vine (*Cuscuta americana*), which is commonly found growing over ornamental plants in small gardens in Castries and the country villages.

This vine is spread by children, who throw pieces about on their way to and from school, hence it is frequently found in the neighbourhood of the Primary Schools. Children under the age of sixteen years, who introduce love vine on any land, road, plant, fence, building or place, are liable for every such offence, in addition to or in lieu of any other punishment, to be whipped once with not more than twelve strokes of a tamarind rod or other similar rod.

Occupiers of land upon which a notice requiring the removal of this pest has been served, are liable to a penalty not exceeding £20, unless the vine is destroyed within the period stated in the notice.

Thirty-one notices were served by the Agricultural Officers on residents in the Castries district during the year under review. The pest being removed within the prescribed time, no prosecutions were made.

A DISEASE OF COCO-NUT.

What may prove to be a somewhat serious disease made its appearance during the year among the coco-nut cultivation on an estate in the Dennery district, palms between four and five years of age being attacked. The disease appeared to commence at the top of the unexpanded central shoot, and to work downwards.

Four out of nine plants attacked died owing to the central shoot having been destroyed. Unpreserved and preserved material in formalin was forwarded to the Imperial Commissioner of Agriculture, but it suffered somewhat from delay in transit.

These were submitted for investigation to the Mycologist, who reported as follows :—

'I have examined the specimens illustrating a coco-nut disease at Dennery, forwarded by the Agricultural Superintendent, St. Lucia, in connexion with his letter 911 of September 7, 1918.

'Unfortunately they did not reach this Office until September 30, by which time the unpreserved material was thoroughly decayed, and infested with insects. The material in formalin consisted of roots, on which nothing significant was found, and portions of the central shoot with unexpanded leaflets. The latter show large, well-defined dead areas of sinuous outline, laterally connected on the successive folded leaflets through contact of the margins. There are several fungi, a very profuse development of a small yeast, and numerous nematode worms on the surface of the dead spots. The most conspicuous fungus is a Phycomycete resembling Pythium or Phytophthora, and the parasitic habit of this group gives its presence immediate significance.

'The question arises of its relation to *Pythium palmivorum*, the bud rot organism of the East, recently suspected on very good grounds of occurring as the cause of coco-nut disease in Jamaica (see *Agricultural News*, No. 427, September 7, 1918, p .286). The fructifications of the St. Lucia fungus in the material to hand, are round or nearly so, and resemble the zoosporangia of *Pythium de Baryanum* more than they do the pear-shaped Phytophthora-like sporangi of *Pythium palmivorum*, and the Jamaica species, of which I have a culture. Possibly these differences may be due to the different conditions of growth.

'It seems highly probable that the fungus in question, whatever its specific identity, is the cause of the disease reported by Mr. Brooks, and as such it should be regarded, in view of the characteristics of the group, as of considerable importance. It is essential for its identification that it should be obtained in culture, and, if a further opportunity occurs, Mr. Brooks should be asked to send clean

material in as fresh a condition as possible, avoiding succulent or bulky parts, and packed dry so that the tendency to mould will be lessened. I should also be glad to have preserved material taken before much secondary infestation has had time to develop.

'The remedy for disease of this nature is Bordeaux or Burgundy mixture, preferably with milk or resin soap to increase adhesion.'

Changa or Mole Cricket (*Scapteriscus didactylus*).

The mole cricket is common throughout this island. During the dry season it does not appear to be as active as during the wet period. I am of opinion that the ground being harder during the dry season, it is not possible for the mole crickets to make rapid headway.

Our experience has been that whenever a patch in a grass lawn or road becomes extra moist, either through a depression in the soil, or for want of drains, these patches quickly become a starting point for the attacks, and I have known them to spread a distance of over 600 feet in a few weeks from such small patches.

The mole cricket has always been a pest in vegetable gardens throughout the island, and at various periods it has caused a good deal of injury to grass tennis lawns and cricket grounds. It has been a serious pest at the Experiment Station, Réunion, where it has entirely destroyed the new grass roads. Some of these roads, 15 feet wide and 600 feet long, have been totally denuded of grass, and the soil worked up to a loose fine tilth to a depth of 3 inches.

It is interesting to record that the mole cricket appears to be incapable of destroying really hard turf top-dressed with a heavy layer of 'tiff.' One of the grass sections that had been destroyed was turfed with solid turfs of lawn grass dressed with fine 'tiff,' and rolled in, and although this was done twelve months ago, and without any previous treatment of the infested soil, no sign of the mole cricket has appeared. These walks were originally made by levelling the surface, and rolling; then allowing the grass to appear naturally. In some spots, where the grass did not spring up readily, turfs were inserted, and in every instance these have not been destroyed or injured, although the whole of the roads were otherwise destroyed. The grass in each case was the Bermuda grass (*Cynodon dactylon*). This tends to show that, once the roads or lawns are properly established, the mole cricket does not make any great progress in the mass of fibrous roots of the grass, and the layer of surface 'tiff' appears to afford some protection.

Where this pest occurs in small patches in lawns, it is easily checked by watering with whale-oil soap solution (1lb. to 5 gallons of water). Large numbers of mole crickets may be brought to the surface in this way, when they can be collected. The advantage of this remedy is that it is not necessary to fork the lawn before applying the solution.

PLANT PROTECTION ORDINANCE.

The Proclamations in force under this Ordinance up to March 31, 1918, may be seen on reference to previous reports.

During the year under review Proclamations were published absolutely prohibiting the importation into this Colony of any sugar-cane plants or cuttings or any parts thereof that may have come directly or indirectly from Porto Rico.

This precautionary measure was taken in view of a disease known as the 'Mottling disease' of sugar-cane having broken out in Porto Rico, and which is reported to have reached serious proportions.

As a safeguard against the introduction of a serious disease of lime trees, known as 'Blossom Blight' and 'Wither-Tip', caused by a fungus (*Glœosporium limetticolum* Clausen), the importation into this Colony of any Citrus plants, cuttings, fruits, or parts thereof, or any earth or soil, etc., is prohibited. (See *Official Gazette*, March 1, 1919, No. 11.)

Owing to a serious disease of coco-nut trees, known as 'Red Ring Disease, the importation into this Colony of any coco-nuts in husk, coco-nut plants, or parts thereof, etc., is prohibited from Trinidad and Grenada. (See *Official Gazette*, March 1, 1919, No. 11.)

Progress in the Chief Industries.

SUGAR.

Sugar and its by-products occupy the premier position in the value of agricultural produce exported from the Colony.

As foreshadowed in the last Annual Report, this industry suffered a serious decline in production, being approximately 1,000 tons below that of the previous year. This decline was principally due to the reduced supplies of sulphate of ammonia, combined with unfavourable weather conditions in the southern districts of the island.

Some of the estate managers are to be congratulated upon the production they maintained under these adverse conditions, and had it not been for their perseverance, and by incurring extra expenditure on tillage in an endeavour to keep down weeds to obtain the utmost from the soil in the absence of nitrogenous manures, the shortage would have been a serious one.

Luckily the market prices for sugar rose still higher, and notwithstanding the drop in production, the actual value exceeded the figure of last year by £1,735.

The following figures give the quantities and value of sugar products exported during the last two years :—

	1917.	Value.	1918.	Value.
		£.		£.
Usine sugar (tons)	4,013½	72,716	2,943	74,451
Muscovado sugar (tons)	199	3,310	8	119
Molasses and syrup (gallons) ...	78,310	2,542	56,236	2,538
Rum (proof gallons)	588	83	195	29
	Total	£78,651		£77,137

The quantity of rum made at the two local licensed distilleries was as follows :—

1917. 47,370 proof gallons., valued at £7,105

1918. 45,2219 „ „ „ „ £6,782

CACAO.

Since the year 1914 it has been practically impossible to gauge the true position of any of our industries, inasmuch as the progress made can only be ascertained from the actual produce exported.

Owing to shipping restrictions, due to war conditions, and the reduced opportunities for shipping, less produce has been exported than formerly.

This is particularly the case in regard to our cacao industry ; and by referring to the table below, showing the number of bags shipped annually during 1916 and 1917, it would appear that the industry was declining, and this has become the popular belief.

EXPORT OF LOCALLY GROWN CACAO DURING 28 YEARS, 1891-1918.

Year.	Bags of 200 lb.	Year.	Bags of 200 lb.
1891	4,941	1905	9,468
1892	4,381	1906	7,754
1893	5,188	1907	8,598
1894	4,916	1908	6,775
1895	3,481	1909	10,855
1896	5,344	1910	8,187
1897	4,402	1911	10,368
1898	4,713	1912	9,572
1899	4,411	1913	8,170
1900	6,490	1914	7,970
1901	3,285	1915	10,347
1902	7,466	1916	8,162
1903	8,571	1917	6,561
1904	6,679	1918	19,914

The shipping restrictions having now been removed, it has been possible to export the cacao which has been held in stock during the war; and so we find that the exports of cacao for the year under review was 35,609½ cwt., this being 23,893½ cwt. more than the previous year.

These figures constitute a new record, being 9,086 bags of 200 lb. in excess of the previous record for the year 1909, when 10,855 bags of 200 lb. were exported.

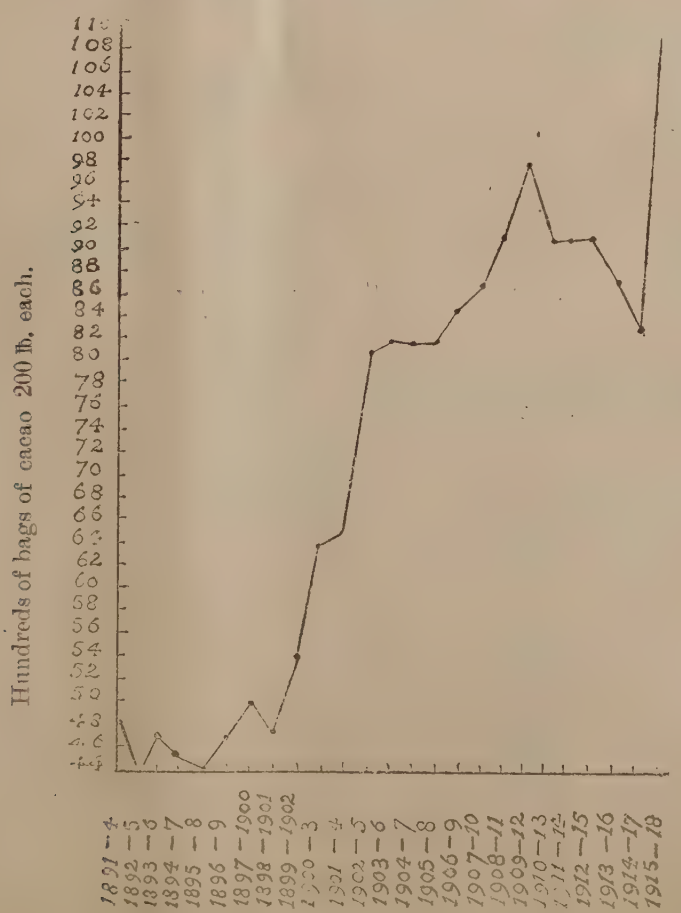
The progress made in agricultural industries cannot be ascertained accurately by comparing the annual exports, because these vary according to good and bad seasons, and are also considerably influenced by shipping facilities.

By treating the annual exports in periods of four years, and taking the average crop, it is possible to show accurately the decline or progress made.

The figures obtained in this way are as follows :—

Period.	Yearly average shown in bags of 200 lb.	Period.	Yearly average shown in bags of 200 lb.
1891-4	4,856	1904-7	8,125
1892-5	4,491	1905-8	8,149
1893-6	4,732	1906-9	8,495
1894-7	4,536	1907-10	8,604
1895-8	4,485	1908-11	9,046
1896-9	4,717	1909-12	9,745
1897-1900	5,004	1910-13	9,077
1898-1901	4,725	1911-14	9,020
1899-1902	5,413	1912-15	9,015
1900-3	6,453	1913-16	8,662
1901-4	6,501	1914-17	8,260
1902-5	8,046	1915-18	11,246
1903-6	1,818		

The following smothed curve, which shows at a glance the actual progress made, has been plotted from these figures:—



This smoothed curve shows that a very substantial increase has been made in our cacao industry during the last four years. Cacao cultivation has received considerable attention during the last few years, both by planters and by the officers of the Agricultural Department. The areas under this crop have not been greatly extended, but much good work has been done in bringing the older plantations into a more healthy and productive condition. Draining and the free application of lime to the soil have given excellent results, and increased the crop in many instances. Mulching, combined with reduction of overhead shade and judicious pruning, has also helped to increase the productiveness of the trees. Peasant holdings have been regularly visited by the Agricultural Officers, and much has been accomplished in controlling diseases and bringing the trees into a more vigorous condition.

Leaflets dealing with 'Drainage', and 'Notes on the General Improvement of Cacao Plantations in St. Lucia' have been prepared and freely distributed, and judging from the applications received for copies, they appear to have been helpful.

LIMES.

Considerable progress has been made in the lime industry, although the green lime trade suffered through the New York market being closed, on account of the shipping restrictions.

Owing to the high rates of freight and the increased cost of packages, planters were advised by this Department to increase the degree of concentration in the preparation of concentrated lime juice to approximately 11 to 1, such concentration being profitable under the circumstances, when carried out in steam-heated wooden vats. This degree of concentration was generally adopted, and the samples of juice submitted by planters to this Department for examination and report showed, in the majority of cases, well prepared and clear juice, there being no evidence of increased sediment due to the higher point of concentration.

Lime products of the total value of £14,261 were exported during the year; this is an increase of £7,316 on the previous year.

The total lime crop of the island, calculated in barrels of fruit, shows that it has more than doubled during the year under review, being an increase of 22,734 barrels over the previous highest record.

The lime crop for the last five years is as follows:—

1914	... ...	12,765 barrels of fruit
1915	... ...	21,363 „ „ „
1916	... ...	22,489 „ „ „
1917	... ...	18,180 „ „ „
1918	... ...	45,223 „ „ „

The following table shows the general progress that is being made year by year in the lime industry:—

Year.	Acreage.	Extension during year, acres.	Total value of lime products exported, £.
1913	2,200	300	3,108
1914	2,837	637	6,451
1915	3,371	534	7,312
1916	3,758	387	6,360
1917	4,224	466	6,945
1918	4,424	200	14,26

Green Limes.

This industry suffered a temporary check owing to shipping restrictions, and only 733 barrels of fruit were exported, as against 4,309 for the previous year.

These restrictions have now been removed, and there is no doubt that St. Lucia will soon occupy a prominent position in this industry, as her shipping marks have become well known in the New York market, where they stand for high-grade fruit, carefully packed, and in sound condition.

COCO-NUTS.

Large quantities of coco-nuts have been used for local consumption to replace the shortage in imported foods and oil.

Exports have also suffered owing to reduced facilities, and the bulky nature of the crop.

The exports of coco-nuts and copra during the last five years are as follows:—

Year.	Nuts, number.	Copra, cwt.
1914	53,638	142
1915	67,208	137
1916	76,306	82
1917	139,096	120
1918	110,437	196

Progress in Minor Industries.

Bee Keeping.

The high prices prevailing for liquid honey has proved a strong stimulus to the local apiarists, with the result that this industry now occupies the premier position of our minor industries.

Bee keeping as an industry commenced in this colony in 1902, and notwithstanding the fluctuations in market prices and the variations due to good and bad seasons, the industry has been carefully nursed, and now that the demand for honey has increased, and the prices realized have exceeded all expectations, our apiarists have been able to take full advantage of the favourable conditions, with the result that the industry is rapidly extending.

The value of honey exported during the year under review exceeded the previous record of £704 by £4,181, the quantity exported being an increase on the previous record of 33,346 lb.

The following figures give the quantities and value of honey exported during the last five years:—

Year.	Quantity. lb.	Value, £.
1914	30,324	270
1915	29,338	417
1916	45,588	491
1917	46,724	396
1918	80,070	4,885

The colony is particularly free from disease: foul-brood and other serious bee diseases do not exist in the island.

A Proclamation in force prohibits the importation of bees or bee material into this colony, unless accompanied by a certificate approved by the Agricultural Superintendent, to the effect that the disease known as 'foul-brood' does not exist in the apiary from which the bees or material was taken.

Bay Oil.

The Bay Oil Factory was closed for the greater portion of the year owing to difficulties of management, but the business has now been purchased by a Paris company possessing a large capital, and it is expected that a considerable business will be developed in the near future.

Every assistance has been rendered this industry by the Government and the Agricultural Department, as it is fully realized that a prosperous peasant industry can be developed, if the factory is worked on business lines. There being an abundant supply of wild and semi-wild bay leaves, there is no reason why a permanent industry in bay oil and bay rum should not be established.

Judging from the trials already made in the preparation of bay rum, it would appear that increased attention will have to be paid to the production of a grade of ~~oil~~ superior to that used in the initial experiments.

The following figures give the quantity and value of bay oil exported during the last five years:—

Year.	Quantity, gallons.	Value, £.
1914	40	74
1915	115	173
1916	606	1,090
1917	616	1,153
1918	223	443

Rice.

For many years past the coolies working on the sugar estates situated in our valleys have grown swamp rice for their own consumption.

Owing to the shortage of imported cereals, due to war conditions, this cultivation has, during the last three years, received increased attention by our progressive planters in the southern districts, and along the windward coast. In 1917 it was estimated that an extension of something like 80 acres in rice cultivation had been made in that year. During the year under review this extension has been more than doubled, and rice has now become an important minor industry in this colony.

In view of the fact that something like £3,000 worth of rice is imported into this island annually, there is a good local market for this crop, and every inducement and encouragement should be given to those who are engaged in developing this industry. It is estimated that something like 5,000 cwt. of paddy are now raised annually in the colony.

Information has recently been obtained to the effect that, owing to a serious shortage in the rice crop of India and British Guiana, no supplies will be available for importation into this colony during the coming season. It will therefore be necessary to increase our local production of rice by something like 150 tons, or else make good this shortage by substituting other foodstuffs.

There is not sufficient swamp land available in this colony to raise the whole of this extra quantity, but this could be more than made up by the general cultivation of 'Upland' or 'Hill' rice. A special leaflet dealing with the cultivation of 'Upland' or 'Hill' rice has been published, and may be obtained free of charge upon application to the Agricultural Officers.

Tanning.

As mentioned in the last Annual Report, contined attention has been given to the tanning of locally produced hides. The leather produced is now used locally, and compares favourably with some of the inferior grades imported from America. It is not possible to estimate the quantity of leather produced, but the steady decline in the number of hides exported is in a measure due to this cause.

The following table shows the decline which has taken place in the last five years :—

Year.	Hides.	Year.	Hides.
1914	3,266	1917	1,833
1915	8,403	1918	1,432
1916	4,289		

Drugs, Spices, Etc.

The following statistics show to what extent drugs, spices, etc., are produced in this colony :—

	1916 lb.	1917 lb.	1918 lb.
Kola	12,428	5,411	14,261
Nutmegs	2,719	2,315	5,698
Mace	518	132	884
Cassia Fistula ...	1,920	1,360	824
Vanilla	573	nil	891

CHIEF EXPORTS FROM ST. LUCIA.

	1916.	1917.	1918.
Sugar Products :—			
Sugar, vacuum pan	74,011 cwt.	80,270 cwt.	58,878 cwt.
„ muscovado	15,492 „	3,985 „	167 „
Molasses and syrup	108,107 gall.	78,310 gall.	56,236 gall.
Rum	18,014·5 „	588 p.gall.	...
Cacao Products :—			
Cacao	14,575 cwt.	11,716 cwt.	35,610 cwt.
Lime Products :—			
Concentrated juice	16,823 gall.	11,199 gall.	31,890 gall.
Raw juice	1,280 „	12,177 „	80 „
Distilled lime oil	305 „	300 „	1,447 „
Essential oil of limes	294 „	145 „	...
Otto of limes	...	...	...
Green limes	3,403 b'rls.	4,068 b'rls.	733 b'rls.
Coco-nut Products :—			
Coco-nuts	73,306	139,096	110,437
Copra	82 cwt.	120 cwt.	196 cwt.
Honey Products :—			
Honey	45,588 lb.	46,724 lb.	80,070 lb.
Bees' wax	303 „	96 „	77 „
Cotton Products :—			
Sea Island lint	nil	nil	nil
Cotton seed	„	„	„
Spices :—			
Nutmegs	838 lb.	2,315 lb.	5,698 lb.
Mace	62 „	132 „	884 „
Vanilla	573 „	nil	891 „
Various Products :—			
Oranges	3,513	10,550	36,470
Mangoes	£497	882,200	...
Cassia Fistula	1,920 lb.	1,360 lb.	824 lb.
Kola	12,428 „	5,411 „	14,261 „
Bananas	58 bun.	48 bun.	73 „
Bay oil	606 gall.	616 gall.	223 gall.
Hides	4,289	1,833	1,432
Plantains	162 doz.	nil	nil
Arrowroot	nil	„	„
Farine	40 lb.	„	350 lb.
Yams	£10	„	...
Fish oil	nil	„	400 gall.
Forest Products :—			
Logwood	790 tons	735 tons	860 tons
Firewood	146,344 c. ft.	173,487 c. ft.	234,403 c. ft.
Railway sleepers	1,853 „ „	5,122 „ „	...
Brooms (made from palm leaves)	£32	2,074 doz.	1,844 doz.
Posts	1,441 c. ft.	906 c. ft.	346 c. ft.
Cedar	1,968 „ „	4,596 „ „	841 „ „
Boards	259 „ „	2,734 „ „	5,578 „ „
Hoe sticks	1,382 „ „	1,562 „ „	216 „ „
Dye wood	nil	nil	nil
Spokes	1,379 „ „	572 „ „	930½ „
Charcoal	419 cwt.	134,945 lb.	223,203 lb.
Felloes	6 c. ft.	34 c. ft.	110¼ c. ft.
Ladle handles	...	...	12
Shingles	92 „ „	23,000	42,000

Agricultural Education and Instruction.

Agricultural Instruction in the Primary Schools.

The examination of the primary schools in agriculture was conducted by Mr. R. Niles, Agricultural Officer, between November 28, 1918, and February 21, 1919.

The number of schools examined was the same as last year, viz. sixteen.

The number of children examined was 399, showing an increase of 5·7 per cent. over last year ; and this number only represents about 88 per cent. of the boys who have received agricultural instruction. Influenza was primarily responsible for the large number of absentees during the examinations.

The standard of work done is higher than that of previous years, and reflects credit on the teachers concerned.

Grafting of mangoes on a large scale is being carried out in nearly all the schools ; the budding of oranges, however, is still in the experimental stage. This subject will receive increased attention by the agricultural officers during the coming year.

Surprise visits were paid to the schools and gardens during the year by agricultural officers, and demonstrations and lectures were given by Mr. Niles, the Agricultural Officer.

Some of the teachers appear afraid to remodel the school garden after having once laid it out. This is a mistake, as the soil is improved by remodelling, and such work enables the teacher to demonstrate how the same piece of land may be utilized in various ways. A school garden should be remodelled every two years.

La Croix Maingot school is now in charge of a male teacher, and agriculture should be taught again in this school.

A detailed report and mark list showing the present standing of each school is appended. The teachers have maintained a high standard of efficiency throughout the year.

Examiner's Report.

Forestière Wesleyan.

The condition of this garden is good, and improvement has been made in the practical work. Even the girls show a keen interest in budding and grafting operations. Seven budded mango plants (Julie, budded on Mango Long stock) were shown in various stages of growth. More attention should be given to the arrangement of simple experiments, and also to theoretical knowledge.

Castries R. C. Boys'.

This school presented fifty-two boys in the agricultural class. The theoretical work was very good, and practical demonstrations necessary for illustrating the practical work had been carefully carried out. The condition of the garden was not quite as good as at the time of a previous suprise visit. The boys of this school, especially the sixth standard, seem to be taking a keen interest in agriculture.

Dennery R. C. Boys.

Agriculture on the whole in this school is satisfactory, but the practical work is somewhat behind hand when compared with what has been done in the leading schools ; more progress on the lines begun last year should have been made.

La Resource R. C. Juvenile.

The attendance at the time of examination was very bad, and the majority of the boys forming the agricultural class were absent, due chiefly to influenza

prevailing in the district; but the garden was as usual in very good condition, and the practical demonstrations, especially the experimental work, had been carefully arranged and carried out.

Mon Repos R. C. Juvenile.

This school has steadily improved on the work reported last year, and, as a result, agriculture was satisfactory in all the branches. The boys were very keenly interested in various experiments, and if the work in this garden is kept up it should soon serve as a nursery for the distribution of good varieties of fruit trees, etc, in the district.

Micoud R. C. Juvenile.

Agriculture on the whole has made good progress in this school, and the practical work is now of a very useful nature. Experiments with native crops have been carried out, and the boys have developed a keenness for grafting and budding; besides plants in the garden, various plants such as cotton, panax, hibiscus, sugar apple. etc., in the vacinity, were seen either budded or grafted.

Vieux Fort R. C Boys'.

The theoretical knowledge in this school still requires working up. The condition of the garden is good, but more experimental work should be carried out. Budding and grafting, especially the latter, have received attention; but in the case of the mango graft, the stocks used were not sufficiently developed to produce strong plants.

Saltibus R. C. Juvenile.

Out of a total of fifteen boys forming the agricultural class, only six were present at examination, but from what was seen the work is not below the standard of last year. Mango stocks used for grafting purposes were too weak, although the results were successful. The soil of the garden is poor, and would be greatly improved by green dressing and liberal applications of stable manure.

Choiseul R. C. Boys.'

The theoretical knowledge at this school is good, but the practical work has shown hardly any improvement. The garden is large and somewhat neglected, The practical demonstrations should include experimental work, and also budding and grafting. Considering the size and locality, this garden should be one of the best in the island.

Revière Dorée Juvenile.

The theoretical knowledge is good, and the practical demonstrations included a good many simple experiments. In the manurial experiments, control beds were necessary, and in the grafting of mango the stocks used were in most cases not sufficiently developed. A list with the number of buds and grafts put in by each boy in the agricultural class, and also the results obtained, appeared in the garden note book.

Laborie R. C. Boys.'

Agriculture was very satisfactory in all the brauches. The experimental work was well arranged, and results carefully noted and explained. The practical work also included the raising of lime seedlings (about 150 of which were ready for distribution), and grafting of mangoes on a large scale. After the examination seventeen Julie mango plants were distributed to the boys of the agricultural class for planting at home. Many peasants and school gardens have been supplied with grafted mango plants from this school.

Soufrière R. C. Boys.'

The theoretical knowledge of the pupils in this school was good, but the practical demonstrations require more attention. Simple experiments should be carried out, and grafting and budding of plants other than the egg-plant should be begun.

Castries Wesleyan Juvenile.

The practical demonstrations in this school garden were well arranged and the results of some simple experiments were very interesting. Grafting of the mango is being done on a large scale, and proper and constant use seems to have been made of the garden. The theoretical knowledge was good.

Castries Anglican Juvenile.

Practical work of a very useful nature has been successfully carried on in this school during the year, and the teaching of agriculture, on the whole is very satisfactory. Grafting, and the raising of lime seedlings for distribution still figure largely in the practical work. The raising of budded oranges is not yet up to mark, and should be persisted with. The theoretical knowledge is good.

Canaries R. C. Juvenile.

Owing to changes in connexion with the Head Teacher of this school no practical work seems to have been done for some time, consequently, although the school was inspected and the morning spent with the agricultural class, no marks were awarded. It is proposed to begin a new garden on another site. Details as to laying out, etc., were discussed and demonstrated on the spot.

Anse-la-Raye R. C. Juvenile.

Here also, owing to change of Head Teacher, no practical work was done, and consequently no note was awarded. The morning was spent with the agricultural class, and on inspecting a piece of land where it is proposed to start a larger school garden.

LIST OF MARKS AND STANDING OF SCHOOLS IN AGRICULTURAL TEACHING.

School.	No. of pupils examined.	Condition and use made of garden.	Practical work and knowledge.	Theoretical knowledge.	Total.	Percentage.	Result note.
Possible marks ...		10	10	10	30	100	
Laborie R. C. Boys'...	54	9	10	10	29	96·6	E.
Castries Anglican Juvenile ...	41	10	9	10	29	96·6	
Castries R. C. Boys'	52	8	9	10	27	90	E.
Castries Wesleyan	13	9	9	9	27	90	
Dennery R. C. Boys'	22	9	8	9	26	86·6	V.G.
Saltibus R. C. Juvenile	6	9	8	8	25	83·3	V.G.
Mon Repos R. C. Juvenile	8	10	8	7	25	83·3	
La Resource R. C. Juvenile ...	5	10	8	6	24	80	V.G.
Rivière Dorée Juvenile	8	8	9	6	23	76·6	V.G.
Micoud R. C. Juvenile	15	6	8	9	23	76·6	
Vieux Fort R. C. Boys'	32	8	8	6	22	73·3	G.
Forestière Wesleyan	8	8	9	5	22	73·3	G.
Soufrière R. C. Boys'	80	6	6	9	21	70	G.
Choiseul R. C. Boys'	18	6	6	8	20	66·6	G.
Anse-la-Raye R. C. Juvenile* ...	13						
Canaries R. C. Juvenile*	24						
	399						

* No marks awarded.

Examination of Teachers in Practical Agriculture.

An examination in practical agriculture for Assistant Teachers of primary schools was conducted at the Botanic Gardens on August 2, 1918.

Imperial Department of Agriculture Reading Courses.

An examination was held at the Botanic Gardens, Castries, on December 13, in connexion with the above Reading Courses. Mr. St. Prix, Overseer, took the papers set for Preliminary students, and obtained a second class certificate.

Agricultural Science at St. Mary's College.

At the request of the Inspector of Schools, the Agricultural Superintendent again undertook the work in connexion with the examination and marking of the Botany papers done by the pupils of St. Mary's College at their annual examinations. The papers taken were those set for the Junior and Senior Cambridge Local Examinations. Ten pupils took the Junior examination and four the Senior. The work done was very satisfactory, and much progress has been made by all forms during the year.

Pupils from St. Mary's College attended lessons in practical agricultural science held at the Botanic Gardens, and conducted by the Agricultural Assistant, Mr. E. Buckmire.

Education Commission.

The Agricultural Superintendent gave evidence before the Education Commission, which was appointed to enquire into and report upon the educational system of the colony, and to make recommendations for its improvement. The Commission has now published its report.

The following extract, taken from this report and dealing with agricultural training, is of interest :—

AGRICULTURE.

'Agriculture is taught in the primary schools with some degree of success, and for some time Botany and Agricultural Science have been taught at St. Mary's College. It is too early to express any opinion as to the success of the work done in the latter establishment. But we wish to emphasize the fact that if this colony is to develop and attain any measure of prosperity, agriculture must be properly taught, and the great majority of the children of all classes should be encouraged to appreciate the necessity for scientific knowledge in connexion with this subject, and to realize that in an island like this, every chance of progress depends on the success of its agriculture.

'To infuse the right ideas on this question into the minds of the younger generation, the subject must be taught carefully and properly in all the primary schools for boys.

'The practical side of agriculture, by which we mean the manual work necessary in the cultivation of the school gardens, should we think, be extended when possible, and the pupils given a direct interest in their produce.

'The school gardens themselves should also be extended. The tools and implements necessary for use in them should be regularly supplied at the cost of the Government

'Further, in country districts like Desruisseaux, La Grace, Babonneau, Saltibus, La Croix Maingot, Paix Bouche, and others, there should always be juvenile schools at which agriculture can be taught.

'It must be remembered that the bulk of the boys and girls attending the primary schools have to look for their future to manual work on estates and holdings; and this should be kept in view, should the attendance at the schools be largely increased, in accordance with our recommendation.

'The evidence goes to show that boys and girls on leaving school frequently do nothing at all, and so far from having obtained during their school days an appreciation of the dignity of labour, they are apt to be ashamed to be seen at manual occupation in connexion with agriculture. Thus education should tend

to eradicate this mistaken view, and to encourage the idea that work with the hands is as honourable as any other form of employment.

'To make it possible to get any improvement in the Primary Schools, the Teachers, Assistant Teachers, and Probationers should be given the opportunity to obtain the necessary knowledge, by attending lectures on the subject and learning some practical work from qualified instructors. We are glad that you have recently propounded a scheme with this object in view, and we entirely agree with your views on the sub-question.

'At St. Mary's College the work which is being done should be developed and improved.

'We submit that to succeed in getting any really successful or permanent work done in agricultural science, there should always be on the staff of the College a master qualified to teach agricultural science. To enable this to be done, a sum, about £200 to £250, should be added to the grant-in-aid which is now made to the College, and funds should be provided by the Government for the establishment and proper equipment of a laboratory there.

'We are of opinion that there should be greater facilities for learners to be attached to the staff of the Agricultural Department at Réunion.

'We note with satisfaction the institution of agricultural scholarships, but it should also be possible for other boys whose parents are willing to pay a small fee, to be attached to the Department, with the object of being instructed in Practical Agriculture, and so fitting themselves for such work on estates.'

Government Agricultural Cadets.

His Excellency the Governor-in-Chief, Sir George Basil Haddon-Smith, instructed the Agricultural Superintendent to draw up a scheme for the training of two agricultural cadets.

The following scheme was in due course submitted, approved a nd adopted :—

'The Department of Agriculture is prepared to receive two cadets for practical training in agriculture.

'The course of training will extend over a period of three years, and the cadet will be required to engage in the various branches of field and nursery work with a view to acquiring a sound knowledge of practical agriculture.

'Candidates must produce a medical certificate of physical fitness a nd freedom from disease, and must have shown aptitude for instruction in agriculture. They must have attained a standard of elementary education sufficient to satisfy the Government that they are capable of taking full advantage of the course of training offered. They must be youths of good character, and be recommended by the Head Teacher of the school they regularly attend.

'The course of instruction will be directed towards the acquirement of a sound practical knowledge of the art of agriculture.

'During the 1st year the cadets will attend St. Mary's College where they will receive a course in elementary agricultural science.

'The cadets during the 2nd and 3rd years will be attached to the Agricultural Department, where the first year of training will be directed towards the acquirement of a practical knowledge of the methods of plant propagation, nursery work, planting and care of staple crops, such as cacao, limes, rubber, nutmegs, fruits and the commonly cultivated crops. The course will include instruction and practical work in the various forms of tillage, drainage, weeding, sowing, transplanting, use and application of manures and mulches, the treatment of insect and fungoid pests, pruning, budding, grafting, packing, transporting and planting out young plants, harvesting, and preparing crops for market, etc.

'Subject to good behaviour and satisfactory in their work, cadets will be granted a monthly allowance of £2.'

'The fee of 12 guineas for one year's instruction at St. Mary's College and a further sum of £6 for books for each cadet will be paid by the Government.

'Application for admission of cadets must be made on forms supplied for that purpose, and when filled in should be addressed to the Agricultural Superintendent.

'Cadets whose conduct and progress are unsatisfactory will not be retained under instruction.'

The following selection committee was appointed by His Honour the Administrator to interview the applicants: Honourable V. Degazon, M.L.C., Chairman St. Mary's College; D. Fisher, Esq., M.A., Headmaster, St. Mary's College; and A. J. Brooks, Esq., Agricultural Superintendent.

Thirty-one applications were received and all of the applicants personally interviewed by the selection committee. Six of these were selected for further interview, and cadetships were finally awarded to L. Vanderpool, Castries; and O. Winnette, Micoud.

Agricultural Development.

Prize Holdings Competition.

The work in connexion with the Cacao and Lime Prize Holdings Scheme has been maintained and carried a stage further during the year.

The competition closes in May and prizes will then be awarded.

A full report will be prepared on the work done, and this will be submitted in the next Annual Report.

VISITS TO ESTATES AND SMALL HOLDINGS.

Numerous visits were made to estates and small holdings during the year by the Agricultural Officers.

Economic Products Committee.

The Committee which was appointed to consider the ways and means of further developing the economic products of the colony dealt with the following matters during the year:—

COLD STORAGE.—At the request of His Honour the Acting Administrator, the question of the erection of a cold storage was considered. It was decided that for the present there was no necessity for such an establishment.

COMMERCIAL MUSEUM AT OTTAWA.—It was decided that the colony's products should be exhibited at the Commercial Museum in Ottawa, and that a vote of £25 should be provided for the purpose.

GOVERNMENT SUGAR MILL AT MALGRETOUTE.—This mill being of no service to the Government, it was decided to sell it to a local planter on the Windward coast, where it would be used in the agricultural development of the district.

GOVERNMENT COCO-NUT FACTORY.—It was unanimously decided that the establishment of a Government Coco-nut Factory was desirable, and information relating to machinery, etc., was considered.

STARCH AND FARINE FACTORY.—The question of manufacturing starch and farine on a commercial scale for export was also considered.

AGRICULTURAL LOAN BANKS.—It was pointed out that although the Agricultural Credit Societies met the requirements of the small peasants, they did not help

the middle class of agriculturists; and a scheme of Agricultural Loan Banks was suggested. With some slight amendment in the local law, the Manager of the Colonial Bank promised to take this matter up with his Directors.

BAY RUM INDUSTRY.—The proprietor of the bay rum factory was in negotiation with the representative of a Paris firm, with houses in the French West Indian islands, for the sale to them of his business. A representative of this firm asked for certain concessions, notably an increase in the duty on imported bay rum, and a rebate of excise duty on rum used in the manufacture of bay rum. All reasonable concessions will be granted to foster this industry, when the factory is placed on a sound basis, and the manufacture of bay rum for the local market is undertaken in real earnest.

CUTTING OF BAY TREES FOR COLLECTION OF BAY LEAVES AND OF TIMBER ON VACANT LANDS AND CROWN LANDS.—The common practice of cutting bay trees for the collection of bay leaves, which is done on a large scale throughout the island, was dealt with.

After careful consideration the following suggestions were recommended :—

(a) That the Government should take power to control and protect lands which are vacant or without an owner, whether such lands have been escheated or not.

(b) That it should be made illegal and criminal to cut down the bay tree without the permission of the owner of such trees if on private lands or of the Coloniol Engineer if on vacant lands or Crown lands.

(c) That the doubt as to whether such offences as stealing trees, etc., by cutting them, etc., are a trespass only or stealing, should be removed at once by clear legislation if necessary.

(d) That no one should be allowed to pick bay leaves from vacant lands or Crown lands without a permit from the Colonial Engineer, and that no timber of any kind should be cut on vacant lands without authority from the Colonial Engineer.

(e) That no one should be allowed to sell bay leaves without first obtaining a license to do so, and that owners of properties who wish to pick bay leaves should be required to register their properties for that purpose, and that such owner should have the power to issue permits for (a) the picking of leaves from their lands, and (b) the sale of the leaves.

GOVERNMENT LIME JUICE FACTORY. Financial matters were discussed, and it was decided to recommend :—

1. That the depreciation fund be done away with, inasmuch as there was already a reserve fund which served the purpose and met the necessities of the factory.

2. The non-payment to general revenue of the amount of £30 as reimbursement for supervision by the Agricultural Superintendent or any of his staff.

MINOR PRODUCTS ORDINANCE.—It was recommended that nutmeg and kola should be included under this Ordinance, and that the application of section 49 of that Ordinance to limes and coco-nuts should be enquired into, as it was generally understood that such section did not apply, and that it was very desirable that it should.

Essay Competition.

His Honour, R. Popham Lobb, then Acting Administrator, offered a prize of £5 for the best scheme of a practical nature capable of being adopted at once in furtherance of the development of the Colony's resources.

The competition was open to all members of the local public under the following conditions:—

(a) All suggestions must be typed, and on one side of the paper only.

(b) Competitors must give their correct name and address.

(c) All papers must be submitted within three months from the date of publication of this notice in the *Gazette*.

(d) Length of paper to be unlimited.

(e) All papers submitted will become the sole property of the Committee, and the whole, or a any part thereof, may be used in any way the Committee may decide.

(f) Each competitor may submit as many papers as he desires, but only one subject may be dealt with in each paper.

(g) Papers may be submitted at any time up to the close of the Competition, and must be addressed as follows:—

The Chairman, Economic Products Committee,

The Treasury,

Castries.

(h) All papers must be sealed by the writer, and will be opened by the Chairman at the first meeting of the Committee after the close of the Competition.

(i) Papers involving political or religious questions will not be considered.

(j) The decision of the Committee shall be final in all matters.

Four papers were received, and the Committee were unanimously of the opinion that none of the papers contained a scheme of any practical value, and regretted they were unable to award a prize to any of the competitors.

Alunite.

Samples of white earthy minerals obtained from the Soufrière district were forwarded to the Imperial Commissioner of Agriculture for transmission to Prof. J. B. Harrison, Director Science and Agricultural Department, British Guiana, for examination. As alunite contains potash, the finding of this mineral would have been of some interest and of possible economic importance, now that the available sources of potash are receiving increased attention. Professor Harrison, however, reported that the samples contained no alunite, but consisted of silica as very finely divided angular quartz.

Subsidised Sloop Service.

The peasants in the Micoud district, situated on the Windward coast, having responded to the appeals made to them to plant up their lands with foodstuffs, experienced some difficulty in getting their produce to Castries market.

The Government, acting through the Agricultural Department, subsidised and arranged for a bi-monthly sloop service between Micoud, Praslin, and Castries.

This service has proved useful, and has been faithfully carried out without experiencing serious difficulties, which it was thought might arise, owing to weather conditions.

Chula Drier.

A Chula drier, suitable for drying cacao, copra, corn, fruits, and vegetables, was imported from England at a total cost of £229. 1s. 2*d*.

This drier has been used in the preparation of sweet potato meal, and without it, it would have been impossible to have prepared the necessary reserve supply of this article during the war, as we were previously dependent upon sun-drying. The drier is self-contained, and requires no steam boiler or driving power. It is

easily operated, and consumes but little wood fuel. No difficulty has been experienced in regulating the temperature to any desired degree for the various products experimented with. It is provided with 315, sq. feet of drying trays, and will hold approximately 36 bushels of corn. It is estimated that it is capable of drying from 120 to 150 bushels of corn per day, and it is hoped that it will now be possible greatly to extend the local production of corn.

Settlement of Returned Soldiers on Crown Lands.

The Government has approved of free grants of land being made to members of the St. Lucia Detachment of the West India Overseas Contingent, who return with good discharge sheets. Some of the conditions upon which these grants are to be made were published in the report for the year 1915-16. This matter has received further official consideration during the year under review.

GOVERNMENT GRANARY AND GROUND PROVISIONS DEPOT.

Details of the establishment of a Government Granary and Ground Provisions, Depôt were given in the report for 1917-18.

Granary.

The machinery ordered in February 1918 from England and America arrived recently. This included an English N.D.O. Chula Patent Copra Drier, complete with accessories and spare parts. Being self-contained it may be taken down readily, and transported and re-erected in any locality without difficulty or great expense. It has given complete satisfaction during its trials.

The following machinery was received from America: A 30 h.p. Hor't Engine, a No. 4 Kelly-Duplex Mill, and a No. 1 Rotex Sifter with patent sieve, together with the necessary shafting, pulleys, and all accessories.

Report on First Year's Work.

The following report was submitted by the Agricultural Superintendent to the Chairman of the Government Ground Provisions Depôt Committee on the working of the Depôt from March 1. 1918, to February 18, 1919. This period covers the first year's working of the Depôt.

The primary object of this venture was to encourage and increase the production of local foodstuffs so that a serious shortage in the imports of foreign cereals might be countered by the manufacture locally of corn and potato meal, and by an adequate supply of vegetables.

CUSTOMERS. The Depôt has been largely patronised by the general public, particularly the labouring classes and the coal carriers. Domestic servants as a body, however, do not appreciate the business-like methods in vogue at the Depôt The issuing of printed receipts to each purchaser for all amounts received, showing the weights of provisions purchased, prevents them from making their usual commissions which can be done without detection when purchases are made in the open market, where purchase by sight, and not by weight, is the common practice. For this reason householders have frequently been informed by their servants that they could not obtain provisions at the Depôt, even when that establishment has been overstocked with the article required.

The total number of persons buying at the Depôt during the period under review was 48,095, thus averaging 4,000 per month.

PUBLIC INSTITUTIONS. The Depôt undertook to supply the Public Institutions in Castries with all local provisions required.

To perform this service satisfactorily, it was essential that the Depôt should have a reliable source from which it could obtain its supply of the various foodstuffs required during each month of the year. The Agricultural Department co-operated in this matter, and made the necessary arrangments for growing and preparing the foodstuffs required at the Agricultural Station, Réunion. These supplies were delivered at the Depôt in Castries at regular intervals throughout the year for conveyance to the following institutions: the Gaol, Victoria Hospital, and the Lunatic Asylum.

No unforeseen difficulties were experienced in carrying out this service, which has been successfully maintained throughout the year, to the satisfaction of the staffs of the various institutions concerned.

The following quantities of provisions have been supplied:—

Potatoes	53,372 lb.
Farine	18,894 ,,
Yams	7,193 ,,
Peas and beans	4,965¼ ,,
Bananas	1,079½ ,,
Plantains	1,310 ,,
Breadfruit	960 ,,

This being equal to 5,231 lb. per month.

TOTAL PRODUCE DEALT WITH.

During the period under review, the following produce has been dealt with :—

Produce.	Purchased.	Sold.
Potatoes	254,512 lb.	169,719 lb.
Farine	18,143½ ,,	15,894 ,,
Yams	18,026 ,,	10,942 ,,
Peas and beans	6,213 ,,	6,117 ,,
Tannias	3,056 ,,	2,242 ,,
Plantains	1,635 ,,	1,500
Corn (on cob)	1,577 ,,	nil
" (shelled)	1,105 ,,	1,087 ,,
Breadfruit	960 ,,	960 ,,
Starch	810 ,,	778 ,,
Potato meal	nil	760 ,,
Bananas (bunches) ...	80	80
Corn meal	nil	105 ,,
Ground nuts	12 pots	12 pots

This being an average monthly sale of 17,505 lb. of various foodstuffs.

SOURCES OF SUPPLY. The following table is of general interest, showing which districts have chiefly responded to, and thereby benefited by, the official appeals made from time to time urging the cultivation of increased areas of food crops.

From this it is readily seen that Soufrière, once the most important district for the growing of food crops, has ceased to be a productive centre. This is in a great measure due to the fact that most of the former are now planted with permanent crops, such as limes and cacao.

TABLE SHOWING SOURCES OF SUPPLY.

	Castries.	Soufriere	Choiseul.	Laborie.	Vieux Fort.
	lb.	lb.	lb.	lb.	lb
Potatoes	35 503	113	116,391	105,721	1,784
Farine	8,100	...	9,286	161	615½
Yams	14,526	2,336	427	1,318	19
Peas and beans ...	6,213	...	...	23	...
Corn (shelled) ...	174	...	...	40	...
Corn (on cob) ...	1,577	...	891 ...	...	...
Starch	22½	...	756½	...	31
Tannias	2,292	...	...	694	70
Breadfruit ...	960	...	..	...	...
Plantains ..	1,290	120	25	200	...
Bananas (bunches)	44	28	7	1	...

Under Castries are included the districts of Gros Islet, Dennery, Anse-la-Raye, and Canaries, as these districts delivered their produce direct to the Depôt and not to the Travelling Collector on board the coasting boat 'Taff.'

From the above figures it will be seen that the districts of Choiseul and Laborie supplied the bulk of the provisions handled.

FINANCIAL STATEMENT.

EXPENDITURE.	£	s.	d.	£.	s.	d.
Purchase of produce and packages	1,110	19	5			
Freight on produce per R.M.S. 'Taff'	37	1	6			
Poterage „ „ from steamer to Depôt. ...	16	9	8			
Fees to Paymasters at various villages ...	6	14	7			
Salary of Travelling Collector	50	0	0			
Labour at Depôt	19	8	0	1,240	13	2
Total				£1,240	13	2

RECEIPTS.

Proceeds from sale of produce to date £1,029 5*s.* 1*d.*

ASSETS.

Market value of produce in stock :—

				£.	s.	d.
Dried Potato Slices and meal reserved in case of shortage of imported flour, etc., 9,500 lb. @ 3½. d.				138	10	10
Farine 2,248 lb. @2½ *d.*				23	8	4
Starch 32 „ „ 4*d*					10	8
Peas and Beans 90 lb. @ 8*d.*						
Corn 1,916 lb. @ 2¼*d.*					17	19 3
Potatoes 367 „ „ ¾*d.*					1	16 0
Yams 7,684 „ „ 1*d.*	32	0	4	217	9	5
Total				£1,246	14	6

Difference in favour of Revenue over Expenditure £6 1*s.* 4*d.*

A Government Ground Provision's Depôt was first established in Port-of-Spain, Trinidad, in November 1917, and through the kindness of Mr. W. G. Freeman, Director of Agriculture, the writer had the oportunity, while staying in the island, of studying its working during the first month of operations.

At this period the general food situation throughout the West Indies was very critical.

The proposals to establish in Castries a Central Food Depôt on the lines of the one in Trinidad were made with a certain amount of misgiving, because our resources, unlike those of Trinidad, were small. There was also a possible danger of causing over production, which if greatly in excess of the demand, might have led to serious losses. The situation, however, demanded that something should be done at once to safeguard the local food supply, and the risks with their attendant responsibility, were accepted.

The Castries Depôt was opened in February 1918, and as soon as its establishment became generally known, a considerable extension was made in the areas under food crops by the peasants throughout the island. Some anxiety was at first felt as to what influence the establishment of a Central Depôt in Castries would have upon the food supplies of the various small villages. Experience shows that no shortage or hardships occurred by drawing the main supplies to the chief town, where the inhabitants were not in the same favourable position to grow their own food as were the peasants living in the country districts.

With regard to the question of prices, it is worthy of record that, previous to the establishment of the Depôt, sweet potatoes were being sold readily in the villages along the Leeward coast at 14*s.* to 15*s.* per sack. These high prices realized, were due to the fact that the market value depended upon the supply, the prices fluctuating from 4*s.* to 15*s.* per sack. Owing to the fear of striking a low price for their produce, peasants refrained from planting large areas, because by so doing they would be increasing the supply, and this would cause a sudden drop in value.

The Depôt regulated this by fixing the minimum price at 8*s.* per sack of 150 lb., and guaranteeing this price for one year. This appealed to the peasants, as it guaranteed them a safe market at remunerative prices, and they at once responded to the appeals made to them to increase their production, the result being that the price of potatoes did not rise higher than the 8*s.* per sack throughout the year.

The prices of all produce handled at the Depôt have been maintained at a satisfactory standard throughout the year, both from the producer's and the purchaser's point of view, as is evident by the volume of trade done.

The small difference of £6 1*s.* 4*d.* in favour of revenue over expenditure clearly shows how evenly the balance between the producer and consumer has been maintained throughout the year, and clearly demonstrates that profiteering has not been permitted.

From the information contained in this report it is obvious that the Depôt has achieved all the objects for which it was established. It directly brought about a considerable extension in the cultivation of local food crops, and it maintained a regular supply of fresh provisions to the public institutions, in addition to supplying some 4,000 persons each month.

Free Allotments for Planting Provisions.

Forty-five lots of Government land were given out to peasants for the purpose of planting food crops. Ten of these are situated in the Gros Islet district, and the remainder are portions of Réunion estate. These lots have been worked well, and maintained in good condition throughout the year, and good crops of corn, sweet potatoes, cassava, etc., have been reaped.

Agricultural Credit Societies.

The following covering letter from the Agricultural Superintendent to His Honour the Administrator accompanied the Report on the Agricultural Credit Societies by the Inspector of the Societies :—

Sir,

I have the honour to forward, herewith, the Third Annual Report submitted by the Inspector, on the working of the Agricultural Credit Societies for the year ended March 31, 1919.

2. No additions were made during the year to the number of Societies operating in the island. Each district possesses its own Agricultural Credit Society, and it is not desirable that the actual number should be increased, but that each individual Society should now be developed to its full working capacity.

3. The total number of members belonging to the ten established Societies shows an increase of seventy-two during the year under review.

4. This tends to show that the advantages afforded by these Societies are being appreciated, and that the peasants are slowly but surely learning to trust each other so long as their affairs are supervised by responsible officers.

5. The loans previously obtained from the Government have been taken over by the Colonial Bank.

6. Produce to the value of £270 was handled by the Societies during the year.

7. These Societies are doing good work among the peasants in the various districts, and it is hoped that assistance on similar lines will soon be forthcoming for what might be termed the small proprietor.

8. Thanks are due to the office-bearers, who have continued to assist in the management of these Societies and thus brought to a close another successful year's work.

REPORT ON THE SOCIETIES FOR 1918-19.

(SUBMITTED BY A. R. A. BEAUBRUN, INSPECTOR, AGRICULTURAL CREDIT SOCIETIES.)

At the end of the year the number of Societies in active operation was again ten, while the number of members was 419, as against 347 at the close of the last financial year. Full details of the condition of the Societies are contained in Appendix A of this report.

The year's working can, on the whole, be considered as satisfactory ; the interest on all loans due to and by the Societies have been settled to date. The members of the Societies have during the year either endeavoured to improve their cultivated areas, or cleared lands for planting up fresh crops, particularly sugar-cane.

The amount of loans due to the Colonial Bank by the Societies on March 31, 1919, was £2,420., an increase of £1,189 on the previous year. The loan of £288 borrowed from the Government by the Soufriere, Choiseul, and Micoud Societies has been repaid, and another for a similar figure has been obtained from the Colonial Bank.

As far as ascertainable, all loans have been made use of for agricultural purposes only, and there is an almost complete absence of loans being applied for for such purposes as christenings, marriages, funerals, etc.

The details of business done by each Society during the year are given below.

DENNERY. Mr. Geo. S. Hudson, one of the founders of the Society, the pioneer of the Co-operative Shipping Scheme, and for a long time the Secretary and Treasurer (Honorary) resigned his post on December 31, 1918.

The new office-bearers are :—

Secretary and Treasurer	Mr. Clarendon Francisque
First Trustee	Mr. Claudius Gaspard.
Second „	Mr. Loriste Daniel.

The membership remained at the same figure as last year, viz. seventy.

At the close of the year the account of the Society at the Colonial Bank showed a debit balance of £370.

The produce shipped by this and other Societies during the year is shown in Appendix B.

The accounts of the Society were examined and reported upon by the Public Auditor on January 31, 1919. A statement of the assets and liabilities, and a balance sheet, certified by the Auditor on the date of audit, is appended. *Vide* Appendix C.

MICOUD. Messrs. Civilien Brice and Deluce Smith were appointed First and Second Trustees during the year.

The total number of members to March 31, 1919, was fifty-three.

At the close of the year the Trustees had contracted loans to the extent of £306 on behalf of the members.

The accounts of the Society were examined and reported upon by the Public Auditor on January 19, 1919. *Vide* Appendix C.

SOUFRIERE. Messrs. Regis Medouze and Quentin Cazaubon were appointed First and Second Trustees during the year.

The total number of members to March 31, 1919 was seventy-one

The balance due to the Colonial Bank at the close of the year was £420.

The accounts of the Society were examined and reported upon by the Public Auditor on September 9, 1918. *Vide* Appendix C.

CHOISEUL. There were no changes in the administrative personnel during the year.

The total number of members on the Articles of Association of the Society at the close of the year was forty.

The accounts of the Society were examined and reported upon by the Public Auditor on August 31, 1918. *Vide* Appendix C.

The debit balance of the Society's account with the Colonial Bank at March 31, 1919, was £310.

LABORIE. The total number of members of the Society at the end of the year was fifty-nine.

The Colonial Bank had at the end of the year made loans to the extent of £392 to the Society.

The accounts of the Society were examined and reported upon by the Public Auditor on October 10, 1918. *Vide* Appendix C.

VIEUXFORT. The total number of members at the end of the year was twenty-seven, two new members having signed the Articles of Association during the year under review.

Mr. Charlemagne Cyr was appointed First Trustee, vice Mr. Paul Giraudy, resigned.

The loan of £108 made by the Colonial Bank to the Society during the financial year 1917-18 was renewed for another year.

The accounts of the Society were examined and reported upon by the Public Auditor on September 9, 1918. *Vide* Appendix C.

GROS ISLET. Seven new members signed the Articles of Association during the year. The total number at the end of the year was twenty-four.

At the close of the year £144 had been borrowed from the Colonial Bank by the Trustees.

The Accounts of the Society were examined and reported upon by the Public Auditor on October 31, 1918. *Vide* Appendix C.

ANSE-LA-RAYE. At the close of the year forty-one members had signed the Articles of Association of the Society.

During the year the Trustees borrowed £210 from the Colonial Bank on behalf of the members.

The accounts of the Society were examined and reported upon by the Public Auditor on October 31, 1918. *Vide* Appendix C.

CASTRIES. Five new members signed the Articles of ssociation during the year, and the total number on the rolls at the close of the year was eighteen.

The loan of £130 made by the Colonial Bank to the Society last year was renewed for another year.

The accounts of the Society were examined and reported upon by the Public Auditor on February 1, 1919. *Vide* Appendix C.

GOOD SHEPHERD. A new member signed the Articles of Association during the year, thus bringing up the total membership to sixteen.

The loan of £140, made by the Provident Branch of the Society, which was renewed during 1917-18, was again renewed for one year.

General.

During the year I attended nine general and other special meetings of the Societies. Peasants' gardens in the various districts were visited by me from time to time during the same period. A close touch has been maintained by me with the business of all the Societies; the books have been inspected at frequent intervals, and advice and assistance freely rendered.

I must again thank the office-bearers for their assistance in all matters pertaining to the efficient working and welfare generally of the Societies established in the colony.

APPENDIX 'A.'

REGISTRATION OF SOCIETIES.

Name of Society.	Total membership.	Date of registration of loan.	Amount of loan. £ s. d.	Rate of interest, per cent.	Date of loan.	When loan repayable.	From whom obtained.	When paid. Remarks.
Dennery ...	70	27. 2.19	260 0 0	7	27. 2.19	31. 1.20	Colonial Bank.	
do.		26. 3.19	110 0 0	7	25. 3.19	31. 1.20	..	
Micoud	53	31.10.18	102 0 0	7	31.10.18	26.10.19	„	
do.		8. 1.19	72 0 0	7	7. 1.19	31.12.19	„	
do.		4. 2.19	132 0 0	7	4. 2.19	2. 1.20	„	
Soufrière ..	71	4. 2.19	72 0 0	7	4. 2.19	31.12.19	..	
do.		12. 2.19	348 0 0	7	2. 1.19	31.12.19	„	
Choiseul ...	40	3. 2.19	224 0 0	7	2. 1.19	31.12.19	„	
do.		4. 2.19	84 0 0	7	4. 2.19	31.12.19	„	
do.		10. 3.19	32 0 0	7	10. 3.19	31.12.19	„	
Laborie ...	59	8. 1.19	358 0 0	7	2. 1.19	31.12.19	„	
do.		10. 3.19	34 0 0	7	10. 3.19	31.12.19	..	
Vieux Fort ...	27	25. 7.18	108 0 0	7	25. 7.18	25. 7.19	„	
Gros Islet ...	24	17. 6.18	42 0 0	7	17. 6.18	14. 6.19	„	
do.		12.10.18	102 0 0	7	12.10.18	12.10.19	„	
Anse-la-Raye ...	41	8. 1.19	210 0 0	7	2. 1.19	2. 1.20	„	
Castries ...	18	3. 2.19	130 0 0	7	2. 1.19	31.12.19	„	
Good Shepherd	16	12. 3.19	140 0 0	6	19.1.19	31. 1.20	Gd. Shep. C.F.Sc.	

APPENDIX 'B.'

AGRICULTURAL CREDIT SOCIETIES.

PRODUCE SHIPPED DURING THE YEAR ENDED MARCH, 1919.

Produce.	Quantity.	Number of members participating.	Amount advanced.	Amount realized.	Remarks.
		CHOISEUL.	£ s. d.	£ s. d.	
Cocoa ...	4 bags	5	12 0 0	19 14 10	
Kola ...	1 bag		...	1 18 10	
Sugar ...	13 bags		13 0 0	34 14 4	
		LABORIE.			
Sugar ...	38 barrels 6 bags	9	...	75 4 6	
		SOUFRIERE.			
Cocoa ...	1 bag	1	...	4 0 9	
		MICOUD.			
Cocoa ...	3 bags	2	11 15 4		Not yet sold.
		DENNERY.			
Cocoa ...	10,381 lb. gross	36	...		A/c sales not yet received.
Kola ...	868 lb. nett Produce sold locally	21	...	15 7 2	
Cocoa ...	4,020 lb. nett	36	...	119 0 3	

APPENDIX 'C.'

DENNERY AGRICULTURAL CREDIT SOCIETY.

Balance Sheet at January 31, 1919.

	Dr.	Cr.
Reserve Fund		£ 23 11 5
Loan Account		172 17 10
Boucan Account	£ 11 0 8	
Cash Account	185 8 7	
	£196 9 3	£196 9 3

Statement of Assets and Liabilities.

	Liabilities.	Assets.
Loans to Members		£ 85 10 2
Interest on above (approximate) ...		5 0 0
Due to the Society by F. L. Hudson ...		1 11
Loan Account		172 17 10
Reserve Fund		23 11 5
Loans from Colonial Bank	£260 0 0	
Boucan Account (Dr.)	11 0 8	
Surplus Assets	16 0 8	
	£287 1 4	£287 1 4

MICOUD AGRICULTURAL CREDIT SOCIETY.

Balance Sheet at January 19, 1919.

	Dr.	Cr.
Working Account		£ 1 1 4½
Loan Account		12 0 0
Reserve Fund		16 15 0
Cash Balance	£ 32 19 4½	
	£ 32 19 4½	£ 32 19 4½

Statement of Assets and Liabilities.

	Liabilities.	Assets.
Loans to Members		£294 0 0
Cash Balance		32 19 4½
Loan from Government	£132 0 0	
,, ,, Colonial Bank	174 0 0	
Surplus Assets	20 19 4½	
	£326 19 4½	£326 19 4½

CASTRIES AGRICULTURAL CREDIT SOCIETY.

Balance Sheet at February 1, 1919.

	Dr.	Cr.
Reserve Fund		£ 3 9 0
Loan Account		4 0 0
Cash Account	£ 6 9 0	
	£ 6 9 0	£ 6 9 0

Statement of Assets and Liabilities.

	Liabilities.	Assets.
Loans to Members		£126 0 0
Reserve Fund		2 9 0
Loan Account		4 0 0
Due to Colonial Bank...	£130 0 0	
Surplus Assets	2 9 0	
	£132 9 0	£132 9 0

ANSE-LA-RAYE AGRICULTURAL CREDIT SOCIETY.

Balance Sheet at October 23, 1918.

	Dr.	Cr.
Reserve Fund		£ 9 16 0
Loan Account		6 0 0
Working Account	£ 2 0 8	
Cash	13 15 4	
	£ 15 16 0	£ 15 16 0

Statement of Assets and Liabilities.

	Liabilities.	Assets.
Cash		£ 13 15 4
Loans to Members		204 0 0
Loans from Colonial Bank	£ 210 0 0	
Reserve Fund	9 16 0	
Excess Liabilities (Working Account) ...		2 0 8
	£ 219 16 0	£219 16 0

GROS ISLET AGRICULTURAL CREDIT SOCIETY.

Balance Sheet at October 31, 1918.

	Dr.	Cr.
Reserve Fund		£ 7 0 0
Loan Account		27 0 0
Working Account	£ 2 3 7½	
Cash in Savings Bank	25 16 8	
„ „ Treasurer's hands	5 19 8½	
	£ 34 0 0	£ 34 0 0

Statement of Assets and Liabilities.

	Liabilities.	Assets.
Cash		£ 31 16 4½
Loans to Members		117 0 0
Loans from Colonial Bank	£144 0 0	
Excess Assets	4 16 4½	
	£148 16 4½	£148 16 4½

CHOISEUL AGRICULTURAL CREDIT SOCIETY.

Balance Sheet at August 24, 1918.

	Dr.	Cr.
Working Account		£ 7 13 4½
Reserve Fund		9 12 0
Produce Account		12 5
Members' Account		1 0
Cash in Treasurer's hand	£ 17 15 5½	
Lodged in Savings Bank	3 4	
	£ 17 18 9½	£ 17 18 9½

Statement of Assets and Liabilities.

	Liabilities.	Assets.
Working Account—Balance		£ 7 13 4½
Reserve Fund		9 12 0
Deposits		13 5
Loans to Members		228 0 0
L. Modeste (interest overpaid)	£ 1 0	
Members on Produce Shipping Account	12 5	
Loans from Colonial Bank	144 0 0	
„ „ Government	84 0 0	
Interest due to Government	5 0 0	
Surplus Assets	12 5 4½	
	£245 18 9½	£245 18 9½

LABORIE AGRICULTURAL CREDIT SOCIETY.

Balance Sheet at October 18, 1918.

	Dr.	Cr.
Working Account		£ 3 11 0
Reserve Fund		14 10 0
Loan Account		26 0 0
Cash in Savings Bank	£ 13 1 0	
.. „ hands of Treasurer	31 0 0	
	£ 44 1 0	£ 44 1 0

Statement of Assets and Liabilities.

	Liabilities.	Assets.
Cash to Credit		£ 44 1 0
Loans to Members		332 0 0
Balance—Working Account	£ 3 11 0	
Reserve Fund	14 10 0	
Loans from Colonial Bank	358 0 0	
	£376 1 0	£376 1 0

SOUFRIERE AGRICULTURAL CREDIT SOCIETY.

Balance Sheet at August 31, 1918.

	Dr.	Cr.
Working Account		£ 1 2 10½
Reserve Fund		10 0 0
Cash in Treasurer's hand	£ 9 16 8½	
Lodged in Savings Bank	1 6 2	
	£ 11 2 10½	£ 11 2 10½

Statement of Assets and Liabilities.

	Liabilities.	Assets.
Working Account—Balance		£ 1 2 10½
Reserve Fund		10 0 0
Loans to Members		404 0 0
Loans from Colonial Bank	£324 0 0	
„ „ Government	72 0 0	
Interest due to Government	4 6 5	
Surplus Assets	14 16 5½	
	£415 2 10½	£415 2 10½

VIEUX FORT AGRICULTURAL CREDIT SOCIETY.

Balance Sheet at September 28, 1918.

	Dr.	Cr.
Reserve Fund		£ 6 6 0
Working Account		3 11 1
Cash in Savings Bank	£ 3 4 0	
„ in Treasurer's hand	6 13 1	
	£ 9 17 1	£ 9 17 1

Statement of Assets and Liabilities.

	Liabilities.	Assets.
Loans to Members		£108 0 0
Cash Account		9 17 1
Loans from Colonial Bank	£108 0 0	
Reserve Fund	6 6 0	
Surplus	3 11 1	
	£117 17 1	£117 17 1

GOVERNMENT LIME JUICE FACTORY.

The following statements show the financial position of the Government Lime Factory at the close of the crop for 1916-17.

RECEIPTS AND PAYMENTS IN RESPECT OF THE CROP FOR 1916-17.

	£ s. d.	£ s. d.
To purchase of produce	587 19 6	
„ Value of produce on hand for last crop	5 14 0	593 13 6
„ Working expenses—Labour and managem nt	121 10 3	
„ „ fuel and oil	100 12 7	
„ „ packages	32 2 2	
„ „ export duty on produce ...	30 7 7	
„ „ contingencies	22 12 5	
„ „ insurance on buildings and machinery	12 12 0	319 17 0
„ Contribution to General Revenue for Supervision	30 0 0	
„ Interest and Sinking Fund on Loan £550 @ 10 per cent.	55 0 0	
„ Depreciation Fund 5 per cent. on £514 2*s.* 11*d.*...	25 14 2	
„ Interest and Sinking Fund on Loan No. 2— £865 12*s.* 4*d.*	30 1 10	
„ Special remuneration to Govt. Officers whose duties have been increased	30 0 0	170 16 0
„ Deferred payment due to vendors—original rate of purchase of produce being found too low—		196 0 0
Net profits divisible as follows* :—		
¼ share to Reserve Fund	32 5 3	
¾ „ „ Vendors of Produce	96 15 10	129 1 1
		£1,409 7 7
By Proceeds of Sale of Produce		1,390 8 4
„ Return of Primage		18 13 3
„ Proceeds of sale of Hydrometers		6 0
		£1,409 7 7

*Calculated at rate of 10 per cent on actual expenditure at end of each year.

BALANCE SHEET OF THE GOVERNMENT LIME JUICE FACTORY AT THE CLOSE OF THE CROP FOR 1916-17.

Liabilities.

	£	s.	d.	£	s.	d.
Balance of Loans from General Revenue				1,228	19	10
Vendors' Share of Profits, Crop 1916-17				96	15	10
Reserve Fund :—						
Balance at commencement of crop	156	9	6			
Unclaimed Bonus—1915-16	13	0	4			
Contribution from crop 1916-17	32	5	3	201	15	1
Depreciation Fund :—						
Balance at commencement of crop	27	10	0			
Contribution from crop 1916-17	25	14	2	53	4	2
Surplus Assets				125	1	3
				£1,705	16	2

Assets.

	£	s.	d.	£	s.	d.
Cash at Treasury				351	15	1
Value of Buildings, Machinery and Equipment	1,407	5	3			
Less depreciation	53	4	2	1,354	1	1
				£1,705	16	2

The following is the financial statement of the results for the crop ending March 31, 1918 :—

NETT RECEIPTS FROM SALE OF PRODUCE, ETC.

	£	s.	d.
1917-18 Proceeds of Sale of Concentrated Juice No. 1-50 @ £31	823	5	5
" " " " " Juice 51-89 @ £30	581	19	10
" " " " " Juice 90-156 @ £30	1,061	12	1
Value of Concentrated juice on hand, 4 casks @ £16 net	64	0	0
Proceeds Sale of 16 Cases Lime Oil @ 6s. 6d. per lb.	210	10	5
Value of Lime Oil on hand, 705 lb. @ 3s. 6 d. per lb.	193	17	6
Compensation Claim Paid for loss of Oil in transit—			
1916-17 crop	58	0	7
Proceeds Sale of 8 Cases Lime Oil	96	13	3
Total Receipts	£3,089	19	1

EXPENDITURE.

	£	s.	d.	£	s.	d.
1917-18 To Purchase of Produce				1,661	15	1
Working Expenses :—						
Labour	212	14	8			
Fuel and Oil	295	1	7			
Contingencies	23	11	8			
Packages	161	12	6			
Export Sale of Produce	92	8	11			
Total				695	9	4

	£ s. d	£ s. d
Other charges :—		
Insurance on Buildings	12 12 0	
Contribution to General Revenue	30 0 0	
Loan No. 1. £500 Interest 5% £23 7s. 6d. less £4. 2s. 6d. overpaid in previous years ...	19 5 0	
Interest on Loan No. 2. £1,200 @ 5% ...	60 0 0	
Sinking Fund ,, ,, ...	60 0 0	
Special Remuneration to Officers	30 0 0	£ s. d. 211 17 0
Total Expenses		£2,569 1 5
Total Receipts		£3 089 19 1
,, Expenses		2,569 1 5
Difference		520 17 8
Less amount as deferred payment bringing price paid for produce up to rate equivalent to £27 per pipe		320 14 0
Carried forward net profits		200 3 8
Brought forward net profits		200 3 8
¼ Share of Profits to go to Factory Reserve Fund		50 0 10
¾ ,, ,, ,, ,, be divided as bonus between vendors ...		£150 2 10

As deferred payment and bonus the vendors receive further payment at the rate of 1s. 1d. per barrel of fruit and 1¾d. per gallon of raw juice, thus making a total payment of 4s. 10d. per barrel of fruit, and 7¼d. per gallon of raw juice.

The market price of concentrated juice remained fairly constant throughout the year. Freights and war insurance rates increased during the year, and the cost of packages more than doubled.

UNCLAIMED BONUSES.

Three hundred and eighty-six vendors again failed to claim their bonuses, which varied from 3d. to £4 3s. 3d., thus leaving a total sum of £22 1s. 6d. to be placed to the reserve account of the factory.

PROGRESS.

SIXTH CROP, 1918-19.

The crop handled for the year under review was 8,332 barrels of fruit, this being a decrease of 219 barrels on the previous crop.

The progress made during the six years working of the factory is shown by the table of produce handled during this period :—

Crop year.	Number of vendors.	Produce limes, barrels.	Purchased raw juice, gallons.	Crop brought to common basis of barrels of fruit.	Annual increase, barrels.
1913-14 ...	96	326	...	326	...
1914-15 ...	728	1,410	5,715	2 125	1,799
1915-16 ...	810	2,120	11,973	3,405	1,644
1916-17 ...	850	3,029	7,122	3 920	415
1917-18 ..	847	3,648	39,225	8 551	4,631
1918-19 ...	700	3,155½	41,428⅛	8,332	nil*

*Due to some of the larger growers having erected their own factories during the year.

STATEMENT RE GOVERNMENT LIME JUICE FACTORY.

The following table shows the total quantities of concentrated lime juice shipped from the Government Factory for the first five years, together with the price obtained per gallon, brought to a common basis of 100 oz. citric acid per gallon :—

Year.	Gallons.	Value to nearest £.	Average value per gallon.
			s. d.
913-14	278	121	8 $8\frac{1}{4}$
1914-15	1,968	1,179	11 $11\frac{3}{4}$
1915-16	3,146	1,451	9 $2\frac{3}{4}$
1916-17	2,976	1,202	8 1
1917-18	6,071	3,100	10 $2\frac{1}{2}$

BALANCE SHEET OF THE GOVERNMENT LIME JUICE FACTORY AT THE CLOSE OF THE CROP FOR 1917-18.

1918. LIABILITIES.

		£	s.	d.
March 31.	Balance of Loans from General Revenue	1,391	7	11
	Temporary Advance against Produce on hand ...	257	17	6
	Vendors' Share of Profits	470	16	10
	Reserve Fund	269	14	10
	Depreciation Fund	53	4	2
		2,443	1	3
	Surplus Assets	229	1	9
		2,672	3	0

ASSETS.

1918.		£	s.	d.	£	s.	d.
March 31.	Cash at the Treasury				793	15	10
	Value of Produce on hand				257	17	6
	Value of Building, Machinery and Equipment	1,673	13	10			
	Less depreciation	53	4	2	1,629	9	8
					2,672	3	0

Extension of Interest in Agricultural Products.

COMMERCIAL MUSEUM AT OTTAWA.

A Commercial Museum has recently been opened in Ottawa, Canada, with the object of encouraging trade between the Dominion and the British West Indies.

A section of this Museum is to be devoted entirely to the produce of these islands, and it is essential that St. Lucia should send a representative exhibit to illustrate its varied commercial resources.

The Agricultural Department has undertaken the work of collecting and forwarding the exhibits, which may be sent to the Botanic Gardens, Castries.

The exhibits proposed to be sent are to consist solely of *commercial* samples and not of curios or fancy articles.

The following articles will prove acceptable for this purpose :—

> Sugars, molasses, fancy syrup, rum, cacao, lime juices and oils, copra, honey, kola, farine. starch, Cassia Fistula, nutmegs.

Dried products should be sent in sufficient quantity to fill small boxes about 1 foot cube.

Liquids should be sent in quantities of not less than 1 quart.

Exhibits forwarded to the Agricultural Department should be accompanied by full particulars as to their origin, shipping marks, the quantities available, and, as far as possible, the prices f.o.b. Castries.

Any further information will be gladly supplied on application to the Agricultural Superintendent.

The establishment of this permanent Museum affords a splendid opportunity of bringing to the notice of the Canadian public such of our local produce as can be exported regularly in commercial quantities.

The following ten exhibits were forwarded during the year on behalf of The Cul-de-Sac Co., Ltd. :—

1st grade sugar, grey crystals, molasses, copra, cacao (light and dark), concentrated lime juice, raw lime juice, hand-pressed lime oil, and distilled lime oil.

Exhibits will be received at all times at the Botanic Gardens, Castries, and forwarded free of charge to the producer.

IMPORTATION OF PEDIGREE PIGS.

In view of the local shortage of meat production, and with the object of improving the local type of pig, a number of pedigree pigs were imported by this Department during the year.

In September a young boar and sow (eight to ten weeks old) of an improved type, were obtained from the Government Farm at the Lunatic Asylum, Barbados, through the Imperial Commissioner of Agriculture.

These animals possess the combined characteristics of the Berkshire, Poland-China, and Tamworth breeds. Their cost was charged against the Imperial Grant-in-aid of Agriculture.

In November five pure-bred Berkshire pigs were obtained from the Government Farm, Tobago, through the Director of Agriculture, Trinidad, and paid for from local funds.

This importation consisted of one sow, rising two years, with four young pigs (two boars and two sows), three to four months old.

The two-year-old Berkshire sow and one young boar have been retained at the Agricultural Station, Réunion, for breeding purposes.

The remainder of the animals were sold to the Agricultural and Commercial Society, who disposed of them to its members.

The two-year-old Berkshire sow was put to the Government Farm Stud Berkshire boar before shipment. She farrowed on March 14, 1919.

LOCAL FOOD SUPPLY.

The following report, prepared by the Agricultural Superintendent, was submitted to His Honour the Administrator: —

'Owing to the war and the threatened shortage of imported foods from America and Canada due to the withdrawal of two of the four steamers of the Canadian West Indian Service, it became necessary to take special steps to safeguard the colony against a serious shortage of imported foodstuffs and a possible famine.

'A workable scheme was prepared and submitted by the Agricultural Superintendent, and an advance of £200 was asked for to give effect to the proposals made.

'This advance was later increased by three further sums of £25, £100, and £25, respectively, thus making the total amount received for this object £350.

'Special appeals by printed circulars and posters were made periodically to all classes throughout the colony to assist in growing, as far as practicable, provisions for their own requirements, and arrangements were made to purchase from them all surplus supplies.

'Special Leaflets dealing with the following subjects were prepared by the Agricultural Superintendent, and distributed free throughout the island :—

'Leaflet No. 10. The Cultivation of Vegetables in St. Lucia.
„ No. 12. War-Time Recipes. Corn and Corn Meal.
„ No. 13. War-Time Recipes. Farine.

'Some 25 odd acres of land at Réunion were cleared of bush, and planted with sweet potatoes, cassava, corn, and peas, with a view to increasing the local food supply, and to serve as an object-lesson to the community.

'All the available land belonging to Government House was planted with similar crops under the supervision of the Agricultural Department.

'Free grants of Government land, for the purpose of growing provisions at the Agricultural Station, were made to thirty-four peasants in the Choiseul district for the duration of the war.

'Peasants holding lots under the Réunion Land Settlement Scheme were allowed the use of the land without payment for one year.

'The following cuttings and seeds of provision crops were grown at the Experiment Station, Réunion, and distributed free to planters and peasants :—

Cassava cuttings	79,100
Sweet potato cuttings	204,500
Maize	1,200 lb.
Peas	15,000 „

'Extensive experiments were undertaken for the purpose of manufacturing flour and meal from such crops as sweet potatoes, dasheen, bananas, tannias, breadfruit, etc., to ascertain the most suitable flour which could be profitably produced on a commercial scale as a dilutent for wheaten flour in bread-making.

'The results obtained, proved that, in the event of a real shortage of wheaten flour occurring, the shortage could be made good by utilizing flour made from sweet potatoes.

'Experience gained, showed that sweet potato flour could not be kept fresh for more than six months under normal conditions, and further experiments proved that potatoes carefully sliced and dried could be kept in a wholesome condition for an indefinite period. These could be ground into flour when required, or soaked in water for a short time, and then boiled as a vegetable in the usual way.

'In addition to the potato flour sold to the general public, a large supply was kept in reserve to meet any emergency which might have arisen.

'A collection of the various flours, meals, starches, etc., prepared from local food crop, was placed on view in the Public Library, Castries.

'Large quantities of potato meal were prepared and sold to the local bakers, who supplied bread made of wheaten flour diluted with potato meal to the general public.

'Regulations were passed enabling the Governor—should the necessity arise—to regulate the sale or consumption of wheaten flour, or of any other article of food, or for regulating the proportion of wheaten flour and the proportion of other flour that may respectively be used in the baking of bread and cakes, etc. The penalty for contravening the directions contained in any Order made under these regulations is a fine not exceeding £100, or imprisonment with or without hard labour, for a term not exceeding six months, or both such fine and imprisonment.

'Fortunately at no period of the war was it necessary to bring these regulations into force, but had the necessity arisen, the Agricultural Department was in a position to supply the potato meal required.

'The nutritive value of farine made from cassava was brought prominently before the general public by the publication of Leaflet No. 13, and farine was included in the official dietary at the Public Institutions for the first time.

'A small factory was erected at the Agricultural Station, Réunion, and equipped with mill, presses, drying trays, and a battery of baking pans for the manufacture of farine and starch on a commercial scale.

'The original cost of this building was estimated at £50, but owing to the considerable and rapid increase in cost of materials, such as cement, lumber, galvanised iron, etc., the actual total cost amounted to £104 12s. 10*d*. This was charged to the advance of £350.

'The erection of this factory gave considerable encouragement to the growers of cassava in the neighbourhood, and they greatly extended the areas under this crop. It provided them with the necessary facilities for preparing their own farine without having to purchase mills, etc., which they could not afford.

'Over 30,000 lb. of farine and starch have been made in this factory to date, and supplied to the public institutions and to the general public for local consumption.

'One thousand pounds of maize seed was purchased from St. Vincent for planting at Réunion, and a portion of the crop raised – some 1,200 lb.—was sent to the Parish Priests for distribution to peasants throughout the island for immediate sowing.

'Owing to this free distribution of seed, small plots of corn were raised by the peasants in their gardens throughout the colony. This greatly assisted in supplying them with fresh corn for their own consumption.

'Grinding mills were obtained, and all surplus corn was purchased and turned into corn meal, and sold to the general public.

'The peasants having promptly responded to the appeals made to them to plant up all their available land in food crops, the Agricultural Superintendent submitted definite proposals for the establishment in Castries of a Central Government Ground Provisions Depôt, and a Government Kiln Corn Drier and Granary.

'His Excellency the Governor-in-Chief, Sir George Basil Haddon-Smith, appointed a Committee to consider these proposals.

'This Committee unanimously recommended that effect should be given to the proposals made at the earliest possible date, and that "an expenditure of £500 be at once approved to allow of the work of erecting the necessary buildings being proceeded with", and further, "that funds should be placed at the disposal of the Agricultural Superintendent for the purchase of the vegetables delivered at the Depôt".

'Although the immediate object of the Central Ground Provisions Depôt is to ensure a constant supply of fresh provisions throughout the year, the ultimate object is to improve the condition of the peasant grower, by securing to him a regular sale for his produce at fair prices.

'The Depôt has been largely patronised by the general public, particularly the coal carriers and the labouring classes.

'The total number of persons who made purchases at the Depôt during the last twelve months was 48,095, this being just over 4,000 per month, notwithstanding the fact that the public market is situated within a short distance of the Government Depôt.

STATEMENT OF EXPENDITURE.

	£	s.	d.	£	s.	d.
Total Advances				350	0	0
Expenditure :—						
Cost of erecting Farine and Starch Factory at Réunion	104	12	10			
Purchase of maize seed and peas from St. Vincent for free distribution	12	18	5			
Labour in clearing land, planting foodstuffs, and reaping	231	8	9			
Total				350	0	0
Revenue :—						
Total amount received from sale of produce, and refunded to Treasury to February 28, 1919 ...	175	4	7			
Assets :—						
Value of Farine and Starch Factory, Buildings and Equipment	150	0	0			
Value of crops maturing, and not yet ready for sale (estimated)	40	0	0			
	365	4	7			

'In connexion with this financial statement, I would point out that, owing to the urgency of the matter, it was imperative that planting operations should be carried out at once, notwithstanding the dry season had already set in.

'The first crops failed, but large quantities of potato vines were obtained, from which thousands of cuttings were made for free distribution to peasants when the rains commenced.'

Details of Administration.

STAFF CHANGES.

The Agricultural Assistant, Mr. E. Buckmire, was granted sick leave from October 7 to 20, and from November 18 to 28, followed by thirty-two days vacation leave.

The Manager, Government Lime Juice Factory, Mr. H. A. Pilgrim, was granted fourteen days sick leave from June 8 to 21.

The Inspector, Agricultural Credit Societies, Mr. A. R. A. Beaubrun, was granted twenty-one days vacation leave from June 26 to July 17.

The Assistant Agricultural Instructor, Mr. F. d'Auvergne, was granted fifteen days vacation leave from December 23 to January 7.

Mr. W. Arno, Clerk to the Agricultural Superintendent, was granted four weeks vacation leave from December 2 to 30.

Mr. Bridgeford Paul succeeded Mr. E. Thiman as Junior Agricultural Assistant on March 4, 1919.

Mr. Paul was trained at the Botanic Gardens, Dominica, and served as Overseer under the Agricultural Department for a period of twelve months.

CORRESPONDENCE AND DISTRIBUTION OF INFORMATION ON AGRICULTURAL MATTERS.

During the year, 4,780 registered communications were dealt with at the Superintendent's Office. These included reports, etc., on various subjects, and 168 minute papers.

The following publications have been distributed free of charge to planters and others interested: 120 copies of the Annual Report for 1917-18, fifty-eight copies of each issue of the *West Indian Bulletin*, 500 copies each of Leaflets Nos. 13, 14, 15, and 16.

EXPENDITURE, RECEIPTS, SALE OF PLANTS, ETC.

Expenditure.

The votes for the Agricultural Department for the year were as follows:—

	£	s.	d.
Personal emoluments	969	0	0
Transport and Subsistence Allowance to Agricultural Superintendent, Inspector Agricultural Credit Societies, and Foreman, Agricultural and Botanical Station, Réunion ...	65	0	0
Subsistence Allowance, Overseer and Agricultural Officer (fixed)	18	0	0
Subsistence Allowance, Agricultural Assistant (fixed) ...	18	0	0
Forage Allowance, Agricultural Superintendent	48	0	0
Forage Allowance, Overseer and Agricultural Officer ...	48	0	0
Forage Allowance, Agricultural Assistant	48	0	0
Forage Allowance, Inspector Agricultural Credit Societies (proportion)	24	0	0
Agricultural Cadets, school fees and books for	18	0	0
Improvements at Castries Botanic Gardens	25	0	0
Labour, Agricultural and Botanical Station, Réunion, and Castries Gardens	425	0	0
Seeds plants, manures, etc., and plant disinfection	50	0	0
Miscellaneous requisites	70	0	0
Printing, binding and purchase of books	25	0	0
Maintenance of transport animals, carts, and pedigree pigs ...	45	0	0
Telephones			
Minor repairs to buildings	10	0	0
Contingencies	10	0	0
Purchase of one ox	10	0	0
Freight and transport of plants	12	0	0
Erection of glass seed house	45	0	0
New typewriter	20	0	0
Additional clerical assistance	16	0	0
	£2,019	0	0

The actual expenditure during the year under the above heads was £1,957 11s. 5*d*, this being a saving on the various votes of £61 8*s*. 7*d*.

Receipts.

The receipts from the sale of plants, produce, etc., from the Agricultural Stations, was £74 6s. 2*d*.

ADDITIONS TO THE LIBRARY.

Publications regularly received, besides those of the Imperial Department of Agriculture, were as follows: *Bulletin of the Imperial Institute, Review of Applied Entomology* (Agricultural and Veterinary Series), *Gardener's Chronicle, Kew Bulletin, Bulletin of Entomological Research, Experiment Station Record, Journal of Agricultural Research,* United States Department of Agriculture; *Journal of the Jamaica Agricultural Society, Agricultural Review* of the Philippine Department of Agriculture, *Tropical Agriculturist, Tropical Life, Bulletin of the Department of Agriculture,* Trinidad and Tobago; *Journal of the Board of Agriculture,* British Guiana; Circulars and *Bulletin of the Department of Agriculture,* Ceylon; *Annals of the Missouri Botanical Garden,* Reports of the Porto Rico Agricultural Experiment Station, *Proceedings of the Agricultural Society of Trinidad and Tobago.*

The following books were purchased: *Farming by Motor, All About Farm Tractors and Motor Ploughing,* Temple Press; *Lameness in Horses,* by Piesse, A. E, M.R.C.V.S.; Walley, T., M.R.C.V.S.; *A Practical Guide to Meat Inspection,* 5th Edition, Revised and Enlarged, by Stewart Stockman; *The Flowering Plants of Africa,* Fr. Thomer, Dulau & Co.; *Foods and Their Adulterations,* Harvey W. Wiley, Churchill & Co.; *A Practical Guide to Coco-nut Planting,* R. W. Monroe & L. C. Brown, John Bale, Sons & Danielson; *Chemical Control in Cane Sugar Factories,* Dr. H. C. Prinsen Geerligs, Ed. 1917, London: Norman Rodger.

OFFICIAL VISITS TO THE STATIONS.

Botanic Gardens, Government Lime Juice Factory and Government Granary and Gorund Provisions Depot, Castries.

Mr. A. G. Bell, Director of Public Works, Trinidad, visited the Gardens on July 7, 1918. Sir Francis Watts, Imperial Commissioner of Agriculture, visited the Gardens on November 29, 1918. His Honour the Administrator, Lt-Col. W. B. Davidson-Houston, visited the Gardens on January 9, 1919; also Mr. H. A Ballou, Entomologist on the Staff of the Imperial Department of Agriculture, Barbados, on March 3, 1919.

Agricultural Station, Choiseul.

His Honour the Acting Administrator, R. Popham Lobb, Esq., C.M.G, visited on August 29, 1918.

His Honour the Administrator, Lt-Col. W. B. Davidson-Houston, C.M.G, visited on January 28 to February 1, 1919.

PUBLICATIONS.

The following reports, leaflets, and memoranda were prepared by the officers of the Department for publication:—

Report on Agricultural Instruction in the Primary Schools, by the Agricultural Superintendent and the Agricultural Officer.

Notes on Drainage (Leaflet No. 14), by the Agricultural Superintendent.

Cacao Cultivation. Notes on the General Improvement of Cacao Plantations in St. Lucia (Leaflet No. 15), by the Agricultural Superintendent.

Rice Cultivation. Swamp, Mountain or Upland Rice (Leaflet No. 16), by the Agricultural Superintendent and Mr. C. M. Roach, Department of Agriculture, Trinidad.

Report on Réunion Estate and Land Settlement Scheme, by the Agricultural Superintendent.

Report on the Occurrence and Prevalence of Insect Pests and Plant Diseases, by the Agricultural Officers.

Report on the Agricultural Credit Societies, by the Inspector of Agricultural Credit Societies.

Report on the First Year's Working of the Government Ground Provisions Depôt, by the Agricultural Superintendent.

PLANT AND SEED EXCHANGES, FOREIGN AND LOCAL.

The thanks of the Department are due to the following institutions for contributions of plants and seeds: the Agricultural Departments of Trinidad, Grenada Barbados, and Egypt, and the Imperial Department of Agriculture.

Seeds and plants were sent to the Agricultural Departments of Trinidad, Barbados, Grenada, Dominica, Montserrat, Guadeloupe, Nigeria, Jamaica, British Guiana, Egypt, and Queensland.

MISCELLANEOUS.

CONVERSION OF LATE MARKET SITE, SOUFRIERE, INTO AN ORNAMENTAL GARDEN.

The Soufrière Town Improvement Committee invited the Agricultural Superintendent to prepare a design for laying out the old market site in an ornamental garden.

A design was submitted, and approved by the Committee, and a start has been made in laying out this square.

METEOROLOGICAL RETURNS.

Amount and Distribution of Rainfall.

The rainfall at the Botanic Gardens, Castries, the recording station at the northern end of the island, was 84·85 inches, this being ·80 inch less than the previous year. During the last three years there has been an average reduction in the annual precipitation of 7·83 inches. The rainfall at Réunion, the recording station at the south-west point of the island, was 63·47 inches, this being 2·08 inches less than the previous year. With the exception of the month of April, when only 1·41 inches were registered, the distribution was very even, no appreciable difference being experienced between the usual 'wet' and 'dry' periods.

The heaviest fall of rain occurred in October, when 13·46 inches were recorded. Double figures were also registered in May, when 12·36 inches fell.

Abnormal Occurrences (Periods of Drougrt, Wet Weather, Wind).

On August 22, between 2 p m. and 3 p.m., the barometer dropped two-tenths rapidly to 29·8, where it remained stationary for some time before rising; the wind blew in very strong gusts from south-east. The average velocity of the wind from 2 p.m. to 3 p.m. was 28 miles. Some of the individual gusts registered a velocity of 45 and 50 miles. A few trees were overturned.

On September 9, further indications showed a storm passing to the North. The barometer fell slowly to 29·8, and the wind blew strongly from the South with heavy showers.

Influence of Weather on Crops.

The even distribution prevented loss of crop, through drought, and lime seedling nurseries were not destroyed by damping off.

SAINT LUCIA.

Rainfall Returns, 1918.

Observation Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November.	December.	Total	Maximum in one day and date.			No. of days on which rain fell.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.			
Corinth Estate, Castries ...	4·22	5·26	2·71	1·15	10·25	6·59	8·28	8·85	4·19	9·22	3·69	6·85	71·26	2·13	Aug.	10.	149
Marquis „ „ ..	3·34	7·13	3·90	1·74	11·02	6·80	6·22	8·01	6·61	9·98	4·38	6·83	78·99	2·85	Oct.	15.	222
Choc „ „ ...	3·91	4·90	5·23	1·40	10·33	5·92	7·11	8·19	5·67	10·29	4·16	6·51	73·68	2·80	„	15.	240
Botanic Gardens „ ...	5·46	5·80	5·82	1·41	12·36	8·78	6·07	7·80	6·40	13·46	4·82	6·07	81·95	6·05	„	15.	274
The Retreat „ ..	5·17	5·16	5·70	1·17	12·12	7·25	7·89	9·09	6·96	13·20	4·64	6·51	83·95	5·54	„	15.	265
Soucis, Cul-de-Sac „ ...	7·75	6·93	4·87	1·62	10·61	10·27	10·04	8·18	9·55	12·58	5·83	8·18	96·71	4·20	„	15.	278
Factory „ „ ..	5·68	5·26	3·71	1·08	10·01	8·16	7·89	7·31	12·35	8·78	5·00	5·66	80·92	3·45	„	15.	223
Crown Lands „ ...	6·20	7·28	5·47	2·17	10·71	8·42	9·51	6·30	5·26	11·46	6·06	7·01	85·88	3·45	„	15.	239
Belair Est., Roseau, Anse-la-Raye ..	6·74	6·82	4·79	1·88	10·65	7·12	9·11	7·21	7·92	10·26	5·50	7·08	85·41	5·65	„	15.	251
Uplyme Estate „ „ ..	8·21	9·39	7·91	3·62	18·23	1·88	11·69	11·92	10·92	18·42	11·13	3·66	136·98	3·90	„	15.	285
Invergoil „ „ ...	5·21	4·20	4·61	1·33	8·82	6·16	6·98	7·14	8·87	6·08	4·45	6·05	70·23	2·33	Sep.	28.	253
La Perle .. Soufrière ...	6·82	6·96	6·76	2·14	8·71	8·92	10·49	11·82	8·55	8·88	7·56	6·01	93·65	2·85	Aug.	22.	225
Ruby „ „ ...	6·54	6·92	5·96	2·02	8·77	9·98	10·60	11·28	6·81	8·88	6·53	6·73	91·45	2·77	„	22.	247
La Dauphin Est., „ ...	6·98	7·78	6·90	2·47	9·19	9·05	11·90	18·55	9·05	16·06	10·03	5·00	113·96	5·40	„	1.	158
Ag. & Bot. Station, Choiseul	3·08	2·96	4·68	1·45	6·21	4·92	8·25	7·19	9·18	7·89	4·24	2·79	63·47	2·90	Sep.	9.	167
Rivière Dorée, Choiseul ..	3·27	1·85	6·36	2·47	5·21	6·62	8·38	8·81	9·24	9·99	7·70	3·91	76·41	5·43	„	9.	167
Morne Lezard Est. „ ..	4·54	5·23	6·00	1·60	8·37	6·52	10·71	6·65	9·75	11·12	3·21	4·15	77·25	3·45	„	9.	223
Park Estate „ ...	7·21	9·18	6·68	2·84	8·92	9·72	10·41	9·96	13·07	14·91	7·89	5·47	103·91	3·74	Oct.	15.	263
Woodlands Estate „ ...	7·45	10·48	10·24	3·80	15·27	10·20	13·98	11·25	11·38	19·79	11·99	7·51	131·84	3·80	Sep.	9.	307
Black Bay „ Laborie ...	5·73	4·79	3·52	1·61	3·51	4·60	5·13	6·79	6·11	7·76	4·47	3·44	57·46	3·25	Oct.	15.	150
Retraite Est., Vieux Fort ...	5·01	5·30	3·01	2·60	7·35	5·80	7·80	6·95	9·50	14·98	5·27	5·16	78·76	4·15	„	15.	172
Moule-à-Chique „ ...	2·92	2·33	2·32	1·93	7·12	3·46	6·57	1·88	9·41	9·45	3·33	1·21	58·43	4·79	„	15.	166
Beausejour Estate „ ...	3·88	3·36	2·74	2·45	7·07	4·52	5·03	5·64	9·85	8·88	3·70	4·16	61·08	4·88	Sep.	9.	162
Ponte Sable „ „ ...	4·11	5·00	3·32	2·16	7·67	4·85	6·15	5·29	8·87	10·08	2·18	3·32	63·33	5·10	Oct.	15.	146
St. Urbain „ ..	4·10	4·30	2·65	3·03	7·11	3·84	4·96	5·58	9·37	9·26	4·30	3·85	62·68	5·00	Sep.	9.	188
Troumassée „ Micoud	3·05	3·36	1·44	1·01	8·71	4·76	6·41	3·50	9·75	7·73	2·72	5·24	57·68	5·20	„	9.	93
Fonds „ „ .	4·55	4·19	3·59	2·91	13·79	5·91	8·39	5·57	7·15	13·13	4·08	4·70	78·02	4·80	„	8.	133
Canelles „	1·87	1·08	3·18	2·28	6·59	4·33	6·23	6·01	11·01	11·84	5·49	6·22	75·14	5·61	„	9.	212
Errard „ „ ...	6·54	7·51	4·40	3·39	11·53	7·30	8·10	8·51	9·56	17·32	4·91	9·19	98·16	4·41	Oct.	15.	316
La Caye „ „ ...	6·11	6·19	2·38	0·95	7·99	7·12	6·32	7·17	8·54	11·55	3·51	7·75	76·31	2·79	Sep.	9.	145
Resource „ „ ...	4·13	5·98	2·31	2·44	7·90	7·25	6·59	6·26	7·75	12·52	1·59	8·53	76·55	3·45	Oct.	15.	230
Richfond .. „ ...	5·16	7·52	2·79	3·56	8·63	7·16	7·19	7·27	5·32	12·81	1·69	7·75	79·85	3·70	Oct.	15.	186
Londonderry* „ ...	...	...	...	.	9·16	7·26	9·61	9·53	10·35	13·63	6·29	6·13	71·96	3·80	Sep.	9.	143

*New Station.

REUNION ESTATE AND THE LAND SETTLEMENT.

LAND SETTLEMENT. Three new holdings, of the total approved value of £63 5s., and comprising approximately 11 acres, were sold during the year under review, making a total of forty-five sold, out of the original total of forty-eight.

Table I. shows the numbers and value of the lots remaining unsold on March 31, 1919.

The holdings have been intensively cultivated throughout the year, and large supplies of ground provisions have been raised and sold locally.

The fact that the majority of the land settlement holders voluntarily pay their instalments long before the amounts become due, indicates that the holdings are worked in a profitable manner.

In two instances the whole of the purchase money has been paid up, although the purchasers had another six years in which to complete their payments. In some other cases the payments have been paid up two and three years in advance.

VILLAGE EXTENSION. Three house lots, of the total value of £53, were sold during the year, and an additional lot of land valued at £27, belonging to the Réunion estate, was added to the lots for sale in this section.

SALE OF OTHER LANDS. A portion of land belonging to the Réunion estate, comprising 11 acres, and known as Campagnotte, was divided into two lots, and sold for the sum of £46.

TABLE I.

LAND SETTLEMENT.

Valuation of Lots at Réunion, Le Riche, and Valois, Choiseul.

Sold.				Remaining unsold on March 31, 1919.			
Lot.	Value.			Lot.	Value.		
	£	s.	d.		£	s.	d.
1	22	15	0				
2	29	15	0				
3	24	10	0				
4	11	0	0				
5	22	15	0				
6	17	10	0				
7	24	10	0				
8	23	3	0				
9	19	5	0				
10	27	12	6				
11	23	8	6				
12	18	15	0				
13	45	18	6				
14							
15	22	15	0				
16	18	15	0				
17	35	12	6				
18	35	12	6				
19	33	15	0				
20	22	10	0				
21	30	10	0				
22	33	5	0				
23	13	10	0				
24	14	17	6				
25	31	10	0				
26	35	0	0				
27	33	5	0				
28	31	10	0				
29	15	15	0				
30	33	5	0				
31	47	5	0				
32	15	18	6				
33	16	17	6				
34	15	0	0				
35	31	17	6				
36	21	5	0				
37	16	15	0				
38	11	5	0				
39	15	0	0				
40	22	10	0				
41	21	0	0				
42	16	10	0				
				43	16	10	0
				44	13	10	0
45	19	10	0				
46	20	0	0				
				47	20	0	0
51	37	0	0				
Total sold ...	£1,086	1	6	Total unsold ...	£50	0	0

TABLE II.

GHOISEUL VILLAGE EXTENSION.

Assessed Value of Lots.

Sold.		Remaining unsold on March 31, 1919.	
Lot.	Value.	Lot.	Value.
	£ s. d.		£ s. d.
		1	21 0 0
		2	9 0 0
		3	13 0 0
4	13 0 0		
		5	9 0 0
		6	9 0 0
		7	13 0 0
		8	13 0 0
		9	9 0 0
		10	9 0 0
11	13 0 0		
		12	13 0 0
		13	9 0 0
		14	18 0 0
15	28 0 0		
		16	32 0 0
17	9 0 0		
18	13 0 0		
		19	13 0 0
		20	9 0 0
		21	9 0 0
		22	13 0 0
		23	13 0 0
		24	9 0 0
		25	9 0 0
		26	13 0 0
		27	13 0 0
		28	9 0 0
		29	27 0 0
		30	22 0 0
		31	20 0 0
32	16 0 0		
33	14 0 0		
34	16 0 0		
		35	30 0 0
		36	27 0 0
Total sold ...	£122 0 0	Total unsold ...	£413 0 0

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